# Investoscope 3 User Guide

Release 3.0

# Contents

# Welcome to Investoscope

Investoscope is an easy-to-use, all-in-one tool for tracking investment portfolios of stocks, mutual funds, bonds and other instruments. With a detailed transaction record, Investoscope accurately reports your capital gains and losses, distributions and performance. Integrated technical charts and news help you investigate and analyze your current and potential future investments.

## 1.1 About this User Guide
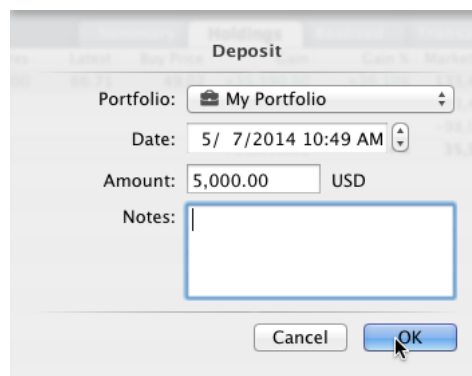
The next section (Section 1.2) is a quick start guide for the impatient. The following chapters provide a more detailed treatment of Investoscope and may be read from start to finish, but should probably just be used as a reference.

## 1.2 Quick Start Guide

In this section we will take you through the absolute basics of setting up your first portfolio and entering your first transactions.
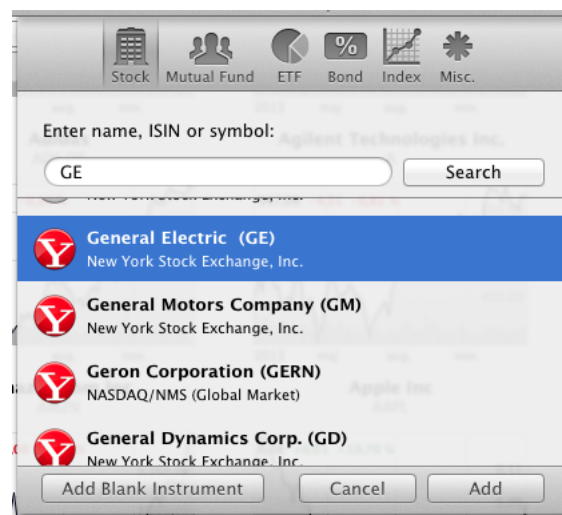
**Creating a Portfolio**   The first thing you want to do to track you investments is to create a portfolio. To do this, choose *File > New > Portfolio...* You will be asked for a name and a currency for the portfolio.

**Adding Cash**   Portfolios in Investoscope maintain a cash balance. To add initial cash to a portfolio, you enter a Deposit transaction. To do that, choose *Transactions > Deposit...* Investoscope will then display the following sheet:

To finish the transaction, enter an amount and click the *OK* button.

**Adding a Stock to the Library** Now, to enter transactions for a stock, say General Electrics, you'll first need to add the stock to the library. To add a stock to the library, first select the "Stocks" library item in the source list. Then choose *File > New > Instrument...* In the search field, enter an appropriate search string, in this case "GE":



Finally, select the appropriate search result and click the "Add" button.

**Entering a Buy Transaction** With General Electrics in the library, you can start adding transactions for it. For example, to record a purchase transaction control-click (or right-click) on GE in the instrument list to bring up the context menu, and then choose *Buy...*:
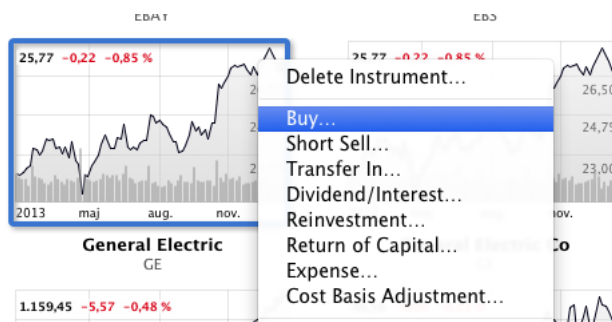
This will bring up the following sheet:



To complete the transaction, fill out all the fields and click the OK button. You will now see General Electric in the Holdings tab of your new portfolio:



| Instrument... ▲ | Shares | Latest | Buy Price | Gain | Gain % | Market Value | Cost Basis | Day's Gain | Day's |
|---|---|---|---|---|---|---|---|---|---|
| General Electric | 100 | 25,70 | 25,78 | −27,00 | −1,04 % | 2.570,00 | 2.597,00 | −27,00 | −1,04 % |
| Subtotal | | | | −27,00 | −1,00 % | 2.570,00 | 2.597,00 | −27,00 | −1,00 % |
| Cash (USD) | | | | – | – | 7.403,00 | 7.403,00 | – | – |
| **Total** | | | | **−27,00** | **−0,26 %** | **9.973,00** | **10.000,00** | **−27,00** | **−0,26 %** |

That's it!

# The Main Window

Almost everything in Investoscope happens in one window. Here is a quick glance of what the main window looks like when you first launch Investoscope:

Investoscope's library contains all your instruments, i.e., your stocks, bonds, mutual funds, etc.

The instrument list displays the contents of the selected source item. Here the instruments are displayed in "Grid View."

The sidebar lets you view and edit the details of the selected instrument.



Context menu, activated by Control-clicking (or right-clicking) an instrument.

Switch the instrument list between "List View" and "Grid View".

Show or hide the sidebar

The instruments in an instrument list can either be displayed as a grid of historical charts or as a list. We refer to these views as *grid view* and *list view*, respectively. Above,

the instruments are displayed in grid view. You can switch to list view by choosing *View > as List* from the menu. From the instrument list, you can go to the *technical chart* of an individual instrument. Technical charts are explained in detail in Chapter 8.

## 2.1   The Instrument Grid View

The grid view is activated by choosing *View > as Grid* from the menu. The grid view displays your instruments as a grid of historical charts:



At the top of the view, you can choose between different scales and time ranges. The grid view is ideal for getting a quick overview of how the instruments you are following are doing.

## 2.2   The Instrument List View

The list view is activated by choosing *View > as List* from the menu. The list view displays your instruments in a table:

| Instrument Name | Latest | Change | Change | Previous | Open Price | Volume | Ask Price | Bid Price | Highest |
|---|---|---|---|---|---|---|---|---|---|
| **Australia** | | | | | | | | | |
| Bannerman Resources Limited | 0,08 | −0,00 | −5,06 % | 0,08 | 0,08 | 804.245 | | | 0,08 |
| Brickworks Fpo | 14,07 | −0,25 | −1,75 % | 14,32 | 14,15 | 14.500 | | | 14,31 |
| Coffey Int Fpo | 0,24 | – | – | 0,24 | 0,24 | 22.300 | | | 0,24 |
| **Canada** | | | | | | | | | |
| Crew Energy Inc | 6,77 | −0,24 | −3,42 % | 7,01 | 6,98 | 791.100 | 6,77 | 6,76 | 7,00 |
| Imperial Oil Com Npv | 45,85 | −0,50 | −1,08 % | 46,35 | 46,07 | 909.500 | 45,86 | 45,85 | 46,28 |
| **Denmark** | | | | | | | | | |
| Vestas Wind Systems | 178,50 | −10,90 | −5,76 % | 189,40 | 186,00 | 1.886.400 | 178,50 | 178,40 | 187,30 |

You can customize the displayed columns from the submenu *View > Columns* or by Control-clicking the table header. The table layout can be saved for later use by choosing *View > Save Current View. . . .* You can restore a previously saved view with the *View > Saved Views* menu.

You can group the instruments in the list view by certain attributes, e.g., the market country (the country of the market in which the instrument is traded), the market name, the trade currency etc. The grouping attribute is chosen in the menu *View > Group By*. In the screenshot above, the instruments are grouped by "Country".

## 2.3 Finding Instruments

In any instrument list, you can quickly find and select an instrument by typing the first letters of its name. Furthermore, you can filter out particular instruments by choosing *Edit > Find* and entering a search query.

## 2.4 The Sidebar

The sidebar on the right side of the window (when visible) lets you view and edit detailed information of the selected instrument(s). The sidebar consists of several panes depending on the selected instrument(s).
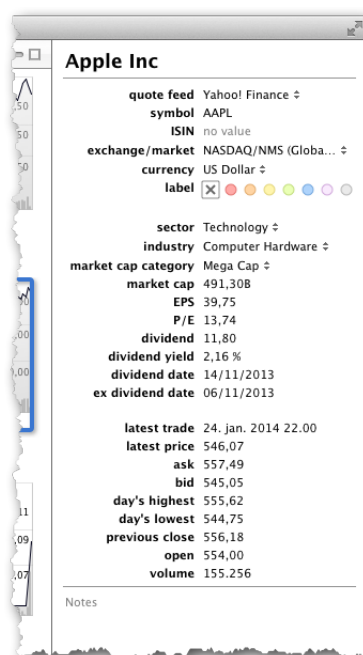


The "Details" pane of the sidebar, shown above, holds the basic properties of an instrument. The exact fields in the "Details" pane vary slightly depending on the type of the selected instrument. The sidebar also contains a "News" pane, for funds an "Assets" pane and for positions in portfolio, a "Positions" pane.

# The Library

The library contains all your *instruments*, i.e., you stocks, bonds, mutuals funds, indices, etc. The library section of the source list has en entry for each instrument type in your library:
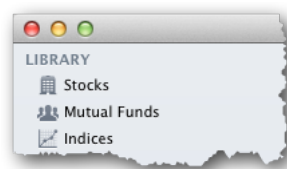


## 3.1 Instrument Types

The following instrument types are supported:

- Stocks
- Mutual Funds
- ETFs
- Bonds
- Indices
- Miscellaneous (for everything that doesn't fit in the above)

Empty sections are *not* displayed, so if you haven't added any, say, bonds to your library, you will not see a Bonds item.

## 3.2 Adding New Instruments

Before you can track a stock or any other instrument, you first need to add it to the library. To add a new instrument to the library, choose *File > New > Instrument...* This will bring up the instrument search sheet:
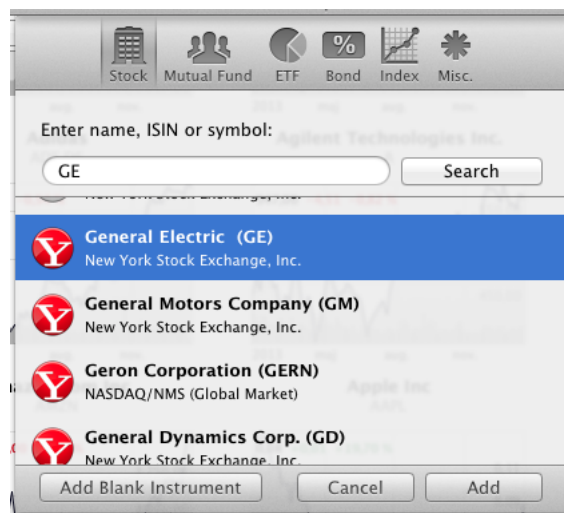


At the top of the search sheet, you select the type of the instrument that you are adding. The search sheet lets you lookup instruments at the supported *quote data sources*. For more information on quote data sources, see Chapter 4. In the search field, enter an appropriate search query, e.g., the name or symbol of the instrument. Above, we have entered "GE" which is the symbol for General Electric. Click the "Search" button or press enter on the keyboard to begin the search. After a few moments, you should see the result of the search. The icon on the left indicates what service is providing the data.

If you see the instrument you were looking for, you can add it to the library by first selecting it and then clicking the "Add" button. If the instrument you were looking for does not appear in the search results, you may first try to alter the search query and repeat the search. If you still cannot find the instrument, it may not be covered by any of the supported data sources. In that case, you can add the instrument as a blank instrument with manual data entry. This is explained in the next section.

## 3.3 Adding an Instrument with Manual Data Entry

Instruments that are not covered by any of the supported data sources, can be added to the library as blank instruments with manual data entry. To add such an instrument, first choose *File > New > Instrument...* At the top of the search sheet, choose the instrument type to add, e.g. Stock, and then click the "Add Blank Instrument" button. You can then enter the details in the sidebar:
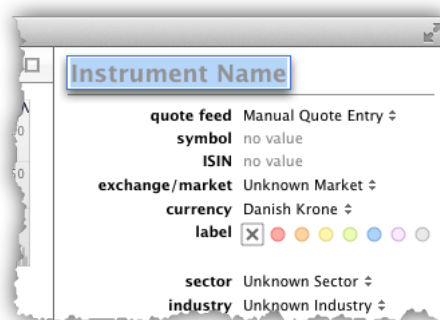
## 3.4 Deleting Instruments

To delete an instrument from the library, first locate it in the library section and select it. Then either press the delete key on your keyboard or choose *Edit > Delete*. However, note that you cannot delete an instrument that is used in one or more of your portfolios. For example, if you have Apple Inc. in one of your portfolios and you try to delete it from the library, you see the following error message:
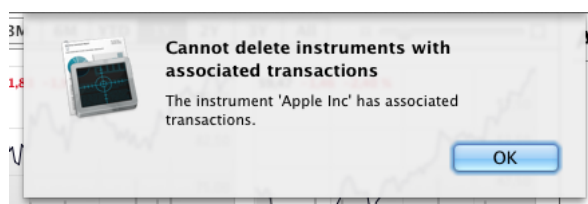


Note: Investoscope is shipped with a number of instruments in the library. Many of these instruments are used by the sample portfolios that also ships with Investoscope. Therefore, if you want to delete these instruments, you first need to delete the sample portfolios.

## 3.5 Editing Instrument Values

The fields of a instrument, e.g., the name, the symbol or the latest price can be edited in the sidebar. To change the value of a field, simply click on it and type in the new value:
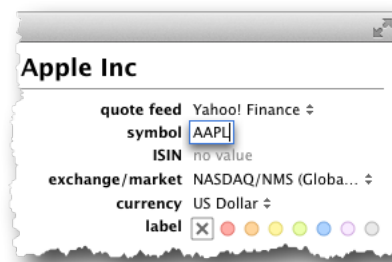
## 3.6  News Feeds

The "News" pane of the sidebar lets you attach news feeds (RSS or Atom) to an instrument:



You can use the checkbox on the entries to indicate that they have been read and then hide them by chooseing *File > Hide Checked News Entries*.
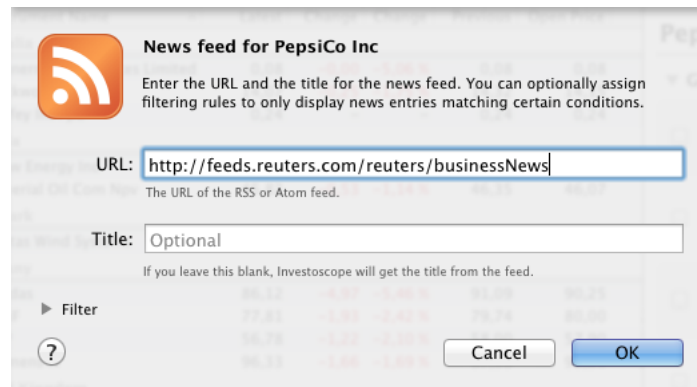
### 3.6.1  Adding News Feeds

Investoscope has built-in news feed templates for Yahoo! Finance and Google Finance that can be added from the menu *File > Add News Feed*.

To add a custom feed, you first need a suitable URL for the feed. For example, say we want to add the business feed from Reuters to Apple Inc., the URL for this feed is:

http://feeds.reuters.com/reuters/businessNews

With Apple Inc. selected in the instrument list and the "News" pane visible in the sidebar, we first choose *File > Add News Feed > Add Custom Feed...* and enter the URL:

Now, since we are only interested in news regarding Apple inc., we click the "Filter" disclosure triangle:



To apply filtering, we check the checkbox and add a rule to only display news entries with "Apple" in the title. Finally, to add the feed, we click the *OK* button.

### 3.6.2   Editing or Deleting a New Feeds

To edit the settings of a news feed, hover the mouse over the title of the news feed and click the menu button:

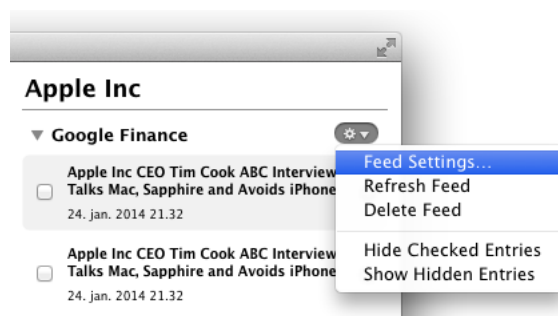Then, choose *Feed Settings...* to bring up the feed settings. To delete a news feed, choose *Delete Feed*.

## 3.7 Colored Labels

*Colored labels* (or just *Labels*) provide an additional organizational element to instruments besides watchlists and portfolios.

### 3.7.1 Setting Up Label Names

The first step to using labels is setting up the label names in the preferences. To set up the label names, open the preferences by navigating to *Investoscope > Preferences...* and choose the Labels pane:



Here you can specify names for specific label colors. By default, they're labeled as colors. You can change them to whatever criteria that makes sense to you.

### 3.7.2   Labeling Instruments

To label an instrument, simply Control-click it to bring up the context menu and select a label:
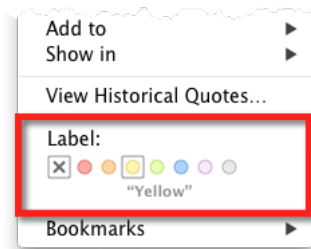


If you want to remove a label, select the 'x' in the context menu. Labels are displayed as colored discs beside the name in instrument lists:



Here, Apple Inc. has been assigned the blue label.

## 3.8   Sectors and Industries

You can assign a sector and industry to each stock in your library. This is done in the sidebar:



Note that the sector and industry is *not* set automatically by Investoscope. The set of available sectors and industries can be edited by choosing *View > Sectors/Industries...* This will bring up the following window:
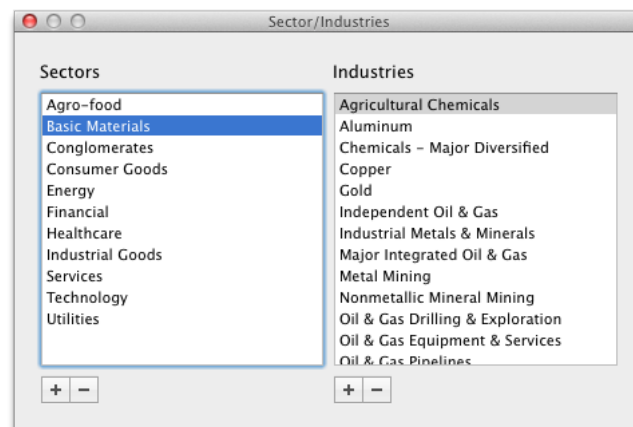
## 3.9 Asset Allocation of Mutual Funds and ETFs

The "Assets" pane in the sidebar for Mutual Funds and ETFs allows you to specify the fund's allocation into *asset classes*, *market caps* and *sectors*.
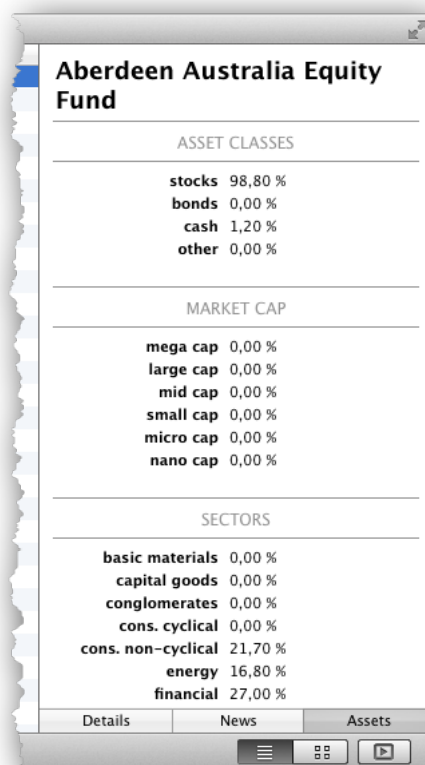
These allocations are used to provide an accurate view of your portfolios diversification (see Section 5).

CHAPTER **4**

# Quote Data and Data Sources

Investoscope automatically downloads both historical end-of-day quotes and current price quotes from free sources on the internet.

## 4.1 Supported Data Sources

Currently, Investoscope supports Yahoo! Finance and Google Finance. Both services cover a wide range of countries around the globe. For Yahoo! Finance, you can see the list of supported exchanges here:

http://help.yahoo.com/l/us/yahoo/finance/quotes/fitadelay.html

And for Google Finance, the supported exchanges can be found here:

http://www.google.com/intl/en-US/help/stock_disclaimer.html

## 4.2 Data Sources and Symbols

Data sources identify instruments using *symbols* also known as *ticker symbols* or just *tickers*. Yahoo! Finance and Google Finance use slightly different symbols, so if you change a data source, you usually also need to change the symbol. For example the symbol for Apple Inc. on NASDAQ at Yahoo! Finance is "AAPL" whereas Google Finance uses "NASDAQ:AAPL".

## 4.3 Changing the Quote Feed

The data source and symbol used to fetch the current price quotes is set in the sidebar:
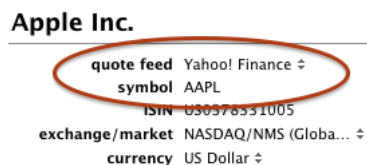
We also refer to the data source for current price quotes as the *quote feed*. Above, the quote feed is set to "Yahoo! Finance". If we change it to "Google Finance" we must also change the symbol:
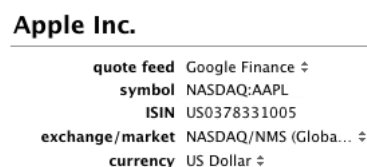


If you set the quote feed to "Manual Data Entry", the current price quote will not be updated automatically. Instead, you can edit the current prices manually in the sidebar.
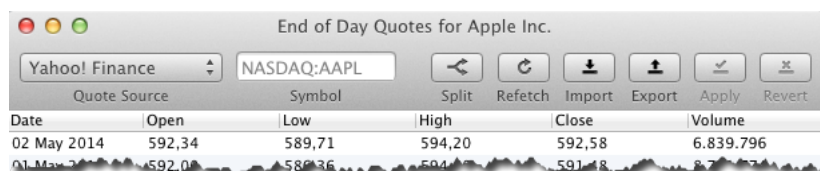
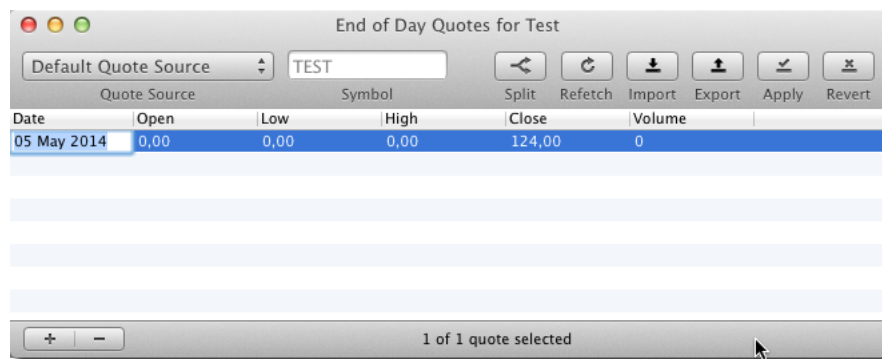## 4.4  Changing Historical Quotes Source

By default when you add a new instrument, the end-of-day quotes are retrieved from the same service as current price quotes. However, sometimes you may want to use Yahoo! Finance for current price quotes and Google Finance for historical quotes (or vice versa). The data source and symbol used for historical quotes can be changed independently of the quote feed in the historical quotes window. To view the historical quotes window, choose *View > View Historical Quotes...*:



Again, if you change the quote source, you should also update the symbol to match that of the selected quote source.

## 4.5  Editing Historical Quotes

To view the historical quotes of an instrument, select the instrument and choose *View > View Historical Quotes...*. This will bring up the historical quotes window:

Historical quotes can be added manually. To add a new quote, click the + button. To remove an existing quote, select and click the − button. You can change a value by double-clicking it and typing in the new value.

## 4.6   Importing Historical Quotes

Historical quotes can be imported from a CSV file. To import historical quotes from a CSV file, choose *File > Import > Historical Quotes from CSV. . .* and navigate to the CSV file and click the *OK* button. Investoscope will then display the import panel:
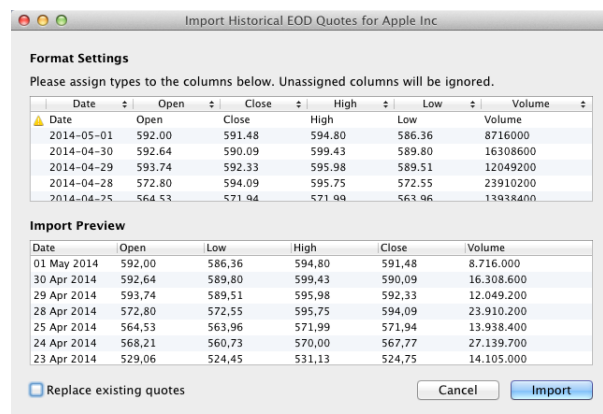


Investoscope needs to know which column contains which quote field. If the import file begins with a header row, Investoscope will attempt to guess the column assignment from that. Otherwise, you assign a quote field to a column by clicking the column header and choosing appropriate field from the menu. You can choose to replace all existing historical quotes by checking the "Replace existing quotes" check box. Otherwise, only new quotes will be added.

# Working with Portfolios

A *portfolio* is a collection of investments. Portfolios are used to track the current value, your capital gains and losses and the historical performance of your investments. Investoscope lets you track any number of portfolios.

Portfolios may be organized in *portfolio folders*. Portfolio folders provide a consolidated view of multiple subportfolios. All subportfolios of a portfolio folder must have the same base currency.

## 5.1 Creating a Portfolio

To create a new portfolio, choose *File > New > Portfolio. . . .* This will open the following sheet:
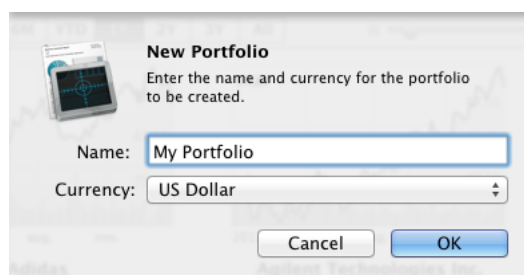


Next, enter the name and select a base currency for the portfolio. Click *OK* to create the portfolio. Your new portfolio will now appear in the portfolios section of the source list.
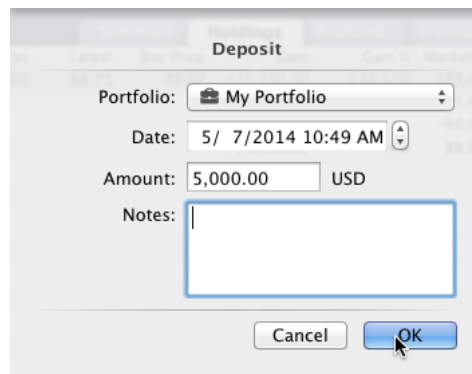
## 5.2 Creating a Portfolio Folder

To create a portfolio folder, choose *File > New > Portfolio Folder* and enter a name (directly in the sidebar). To populate the portfolio folder, drag existing portfolios or port-

folio folders from the source list into the newly created portfolio folder.

## 5.3 Adding and Removing Cash

Portfolios in Investoscope maintain a cash balance. You add cash to a portfolio by entering a Deposit transaction. To do that, first select the portfolio in the source list and then choose *Transactions > Deposit. . .* You will then see the following sheet:



To complete the transaction, enter the amount, date and optionally some notes and click the *OK* button.

Similarly, to remove cash from a portfolio, you enter a Withdrawal transaction. To do that, again select the portfolio and choose *Transactions > Withdrawal. . .*

## 5.4 Opening Positions (Adding Investments)

New positions are added using either Buy, Short Sell or Transfer-in transactions. Buy and Short Sell transactions affect the cash balance of the portfolio. Transfer-in transactions can be used to open both short and long positions without affecting the cash balance.

To enter a Buy transaction, first select the instrument to buy and then choose *Transactions > Buy. . .* This will bring up the following sheet:

Once you have entered the number of shares and a price, Investoscope will automatically fill out the commission for you, based on the settings in the Portfolio pane of the preferences. Click the *OK* button to complete the Buy transaction.

Entering Short Sell and Transfer-in transactions is similar except that you choose *Transactions > Short Sell...* or *Transactions > Transfer-in...*, respectively.

## 5.5   Reducing Positions (Removing Investments)

Long and short positions are reduced (or closed entirely) by entering *Sell* and *Short Cover* transactions, respectively. The amount is added to the cash balance of the portfolio. Transfer-out transaction can be used to reduce a position without affecting the cash balance.

To enter a Sell transaction, you first select the position to sell in the Holdings pane of the *portfolio* that you want to sell from. Then, choose *Transactions > Sell...*. This will bring up the following sheet:
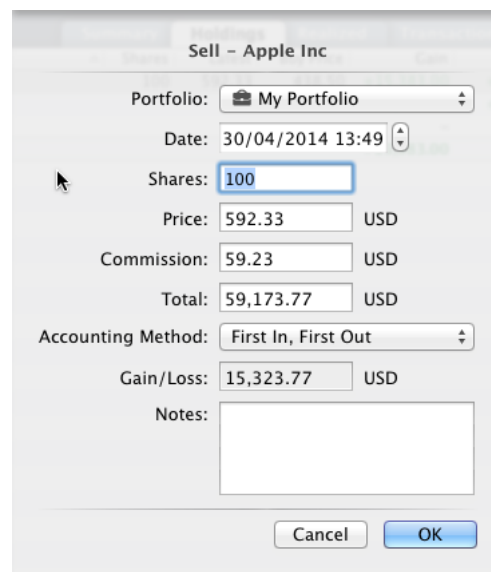
Once you have entered the number of shares and a price, Investoscope will automatically fill out the commission for you, based on the settings in the Portfolio pane of the preferences.

The accounting method pop up buttons lets you choose exactly how the capital gain/loss is calculated:
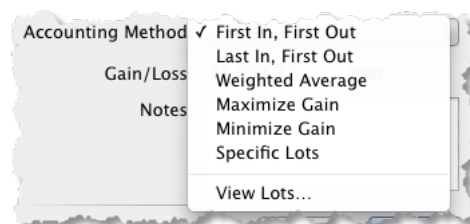


Investoscope supports the following accounting methods:

**First In, First Out**  In this method (also known as FIFO), the shares first bought are the first to be sold.
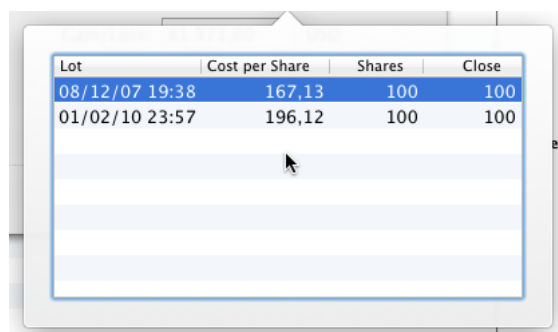
**Last In, First Out**  With Last In, First Out (also known as LIFO), the new shares are chosen first.

**Average**  With this method, the capital gain is calculated using the average cost basis of all the lots.

**Maximize Gain and Minimize Gain**  With the Maximize Gain method, the lots with the lowest cost bases are chosen first.  With, the Minimize Gain method, on the other hand, the lots with the highest cost bases are chosen first.

**Specific Lot Identification** This method lets you specifiy exactly how many shares of each lot you are selling.

You can view the available lots by choosing *View Lots...* from the Accounting Method menu:



To complete the Sell transaction, click the *OK* button.

Entering Short Cover and Transfer-Out transactions is similar except that you choose *Transactions > Short Cover...* or *Transactions > Transfer-Out...*, respectively.
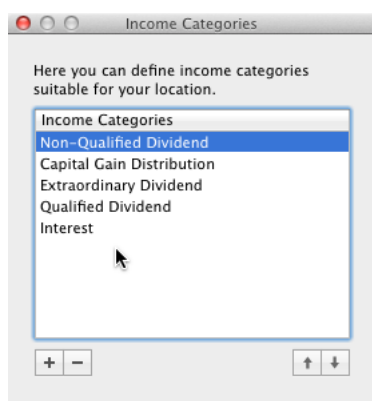
## 5.6 Income Transactions

Dividends, interest and other kinds of income are entered using *Income Transactions*. For each income you enter, you specify an *income category*. The Income report (see Section 5.14) will show the income broken down into the specified income categories. You can define your own income categories to suit your particular needs. To edit income categories, choose *View > Income Categories...*.
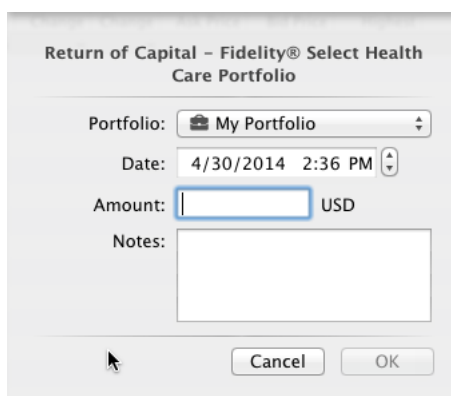


To enter an income transaction, first select the appropriate instrument and then choose *Transactions > Dividend/Interest...*. Investoscope will then display the following form:

The form lets you enter an amount for each of your income categories. When you click the *OK* button, Investoscope will add an income transaction for each income category that you have entered non-zero amounts for. If you later need to change the income, the added income transactions can be edited individually from the Transactions pane.

## 5.7   Return of Capital

A *Return of Capital* is a payment that exeeds the growth of the investment. In Investo-scope, a payment entered using a Return of Capital transaction, is deducted from the cost basis of the position and the amount is added to the cash balance of the portfolio. In other words, when entering a Return of Capital, you will see your cost basis lowered and hence your unrealized gain raised. To enter a Return of Capital transaction, select the instrument and choose *Transactions > Return of Capital...*  This will bring up the following form:

To complete the transaction, enter the amount and date and click the *OK* button.

## 5.8 Investment Expenses

In Investoscope, *Expense* transactions are used to record expenses associated with a particular investment. The recorded expense is added to the cost basis of the postion. The amount is deducted from the cash balance of the portfolio. Thus, an expense can be considered the opposite of a return of capital. To enter an Expense transaction, select the instrument and choose *Transactions > Expense...*
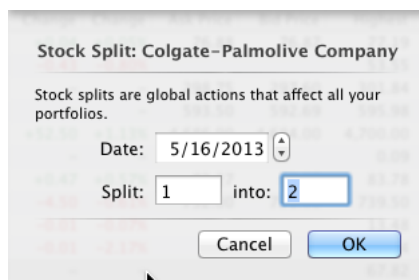
## 5.9 Cost Basis Adjustment

If, for one reason or another, you need to adjust the cost basis of a position without affecting the cash balance of your portfolio, you can enter a *Cost Basis Adjustment* transaction. With a Cost Basis Adjustment transaction, the recorded amount is subtracted from the cost basis, but the cash balance of the portfolio remains unchanged. You can enter a negative amount to make your cost basis greater. To enter a Cost Basis Adjustment transaction, select the instrument and choose *Transactions > Cost Basis Adjustment...*

## 5.10 Stock Splits

A *stock split* is a corporate action in which a company divides each existing share into multiple shares. The total value of the shares remain unchanged by a stock split. Similarly, a *reverse stock split* reduces the number outstading shares in a company. We refer to both stock splits and reverse stock splits as simply stock splits. Stock splits affect the number of shares you own and the price per share, but your cost basis is unaffected.

When you enter a stock split in Investoscope, it applies globally to all your portfolios. Once you have entered a stock split, stock split transactions will be automatically added and removed when appropriate to all your portfolios. The original purchase transactions will not be affected.

**Entering a Stock Split**    To enter a stock split, select the stock and choose *Transactions > Stock Split. . . .* This will display the following dialog:



To complete the stock split, enter the split ratio, the split date and click the *OK* button. Once the stock split has been entered, you will see corresponding stock split transactions in all portfolios containing the stock.

**Cash in Lieu**    If you have received *cash in lieu* for fractional shares, you need to enter a sell transaction for the fractional shares.

**Editing or Deleting a Stock Split**    To edit a stock split, locate one of the stock split transactions in the Transactions pane of a portfolio and choose *Edit Stock Split. . .* from the context menu.  To delete a stock split, choose *Delete Stock Split* from the context menu. Deleting or editing a stock split applies globally to all your portfolios.

**Stock Splits and Historical Quotes**    When calculating historical values, Investoscope assumes that historical quotes are split adjusted. When you enter a stock split, Investoscope will automatically split adjust the existing quotes, if they do not already appear to be so.

## 5.11   Allocation

The pie chart on the "Summary" pane displays your portfolio's current allocation. You can choose to see the allocation into individual instruments, instrument types, asset classes, sectors, etc.
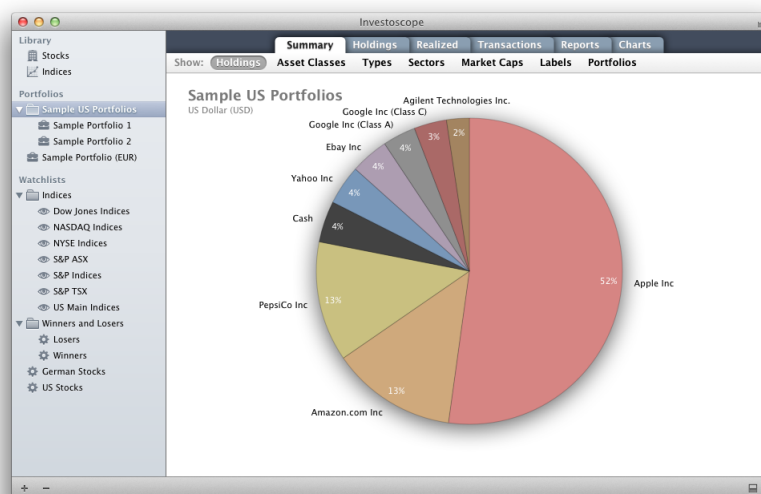
In Investoscope, the *asset class* of an instrument is either *stock*, *bond*, *cash*, or *other*. Bonds with the "cash equivalent" option checked are counted as cash (along with the cash balance of the portfolio):
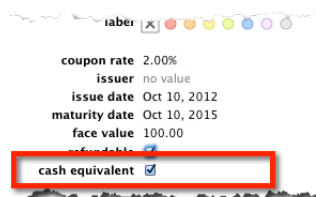


For mutual funds and ETFs, the allocation into assets classes, sectors and market caps is specified in the "Assets" pane of the sidebar (see Section 3.9).

## 5.12   Realized Gains and Losses

The "Realized" pane displays your realized gains and losses. At the bottom of the pane, you can filter the displayed lots by period and/or instrument. Just as with instrument lists, the rows in it can be grouped by different attributes. Below the rows are grouped by "Holding Period":

Filtering and grouping can be combined in lots of different ways. You can customize the exact columns to display using the menu *View > Columns* or by Control-clicking the table header.
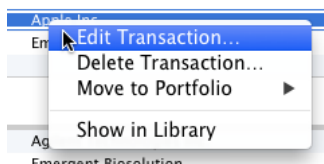
## 5.13  Transactions

The "Transactions" pane displays the transactions of the selected portfolio. Again, the rows can be grouped in different ways. Here, the transactions are grouped by year:

At the bottom of the pane, you can choose to filter the displayed lots by period and/or instrument and you can customize the exact columns to display using the menu *View > Columns* or by Control-clicking the table header.

### 5.13.1 Editing or Deleting Transactions

You can edit a transaction either by double-clicking it or by choosing *Edit Transaction...* from the context menu.



To delete a transaction, select it and then choose *Delete Transaction...* from the context menu, or alternatively, press the delete key on your keyboard.

### 5.13.2 Moving Transactions

You can move transactions to any other portfolio with the same base currency. To do that, select one or more transactions and choose the target portfolio from the *Move to Portfolio* submenu of the context menu. Alternatively, you can simply drag the transaction to the target portfolio in the source list.

## 5.14 Portfolio Reports

The Reports tab of the portfolio view provides a number of useful portfolio reports. You select the report and the date range at the bottom of the screen:



The following subsections describe the available reports.
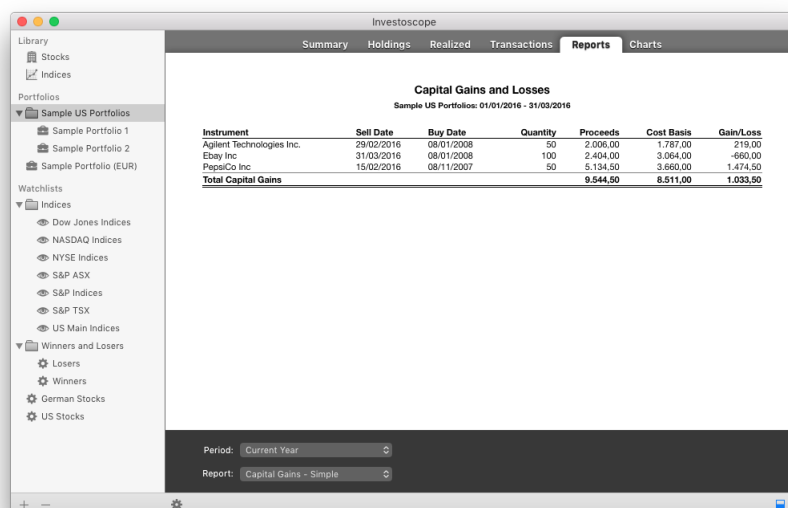
### 5.14.1 Capital Gains and Losses

There are three variants of the capital gains report. The "Capitals Gains – Simple" report shows the realized capital gains and losses within the selected period.

The "Capital Gains – Short and Long Term" report shows the short-term and long-term realized capital gains and losses. The holding period defining short-term vs. long-term can be specified in the Portfolio pane of the preferences.

Finally, the "Capital Gain – Average" shows exactly one row per sale. This is useful if you are not interested in the gains and losses of the individual lots.

The following is an example of a "Capitals Gains – Simple" report:



### 5.14.2   Income

The Income report shows a summary of the recorded dividends and interest:

Note that this report does not include return-of-capital distributions.

### 5.14.3 Performance

The performance report provides insight into how well your portfolio has performed in a given period:

The first two columns show the initial and end values, respectively, for the period. The Gain/Loss column shows the combined realized and unrealized gain witin the selected period. The Distributions column shows the sum of the recorded distributions in the period. The Total Gain/Loss column shows the sum of the capital gain (both realized and unrealized) and the recorded distributions. Finally, the right-most column in the performance report shows the internal rate of return (IRR). For periods longer than one year, the IRR is annulized. For shorter periods, the IRR is not annualized. See Section 5.15 for the precise definition of the IRR.

The Initial Value column displays the value of the position at the beginning of the report period. If the start date lies before the purchase date, the Initial Value is $0$ (which can be a bit confusing at first). If the start date is later than the purchase date, the Initial Value is the market value at the start date, calculated using the historical closing price of day before the start date (if available).

The End Value column displays the value of the position at the end of the report period. This may be $0$, if the entire position has been sold before the end date. Otherwise, the end value is calculated using the latest available price earlier than the end date.

Please note that to accurately calculate historical values of the portfolio, Investoscope relies on historical quote prices. If historical quote prices are not available, or if they are not accurate, the calculated historical position value will not be correct.

### 5.14.4   Trades

The Trades report shows all the trade transactions recorded within the selected period. Trades include buy, sell, short sell, short cover, transfer-in and transfer-out transactions.

## 5.15 Internal Rate of Return

The Internal rate of return (IRR) is a measure commonly used to compare the profitability of investments. IRR is sometimes refered to as the *discounted cash flow rate of return* (DCFROR) or simply the *rate of return* (ROR).

**Definition** Given a sequence of cash flows $C_0, \ldots, C_n$ for periods at regular intervals, the internal rate of return $r$ is given by:

$$\sum_{i=0}^{n} \frac{C_i}{(1 + r)^i} = 0$$

The periods are often given in years, but may also be given in months, weeks or even days. In fact, Investoscope internally calculates the IRR using days and then converts the result to a longer period (e.g. years) afterwards. The following items are counted as cash flow:

- The value at the beginning of the period is a negative cash flow.

- The cost basis for any purchases made in the period are counted as negative cash flows.

- Distributions, i.e., dividends, interest, capital gain distributions, return of capital, etc. count as positive cash flows.

- Proceeds from sales in the period are counted as positive cash flows.

- The value at the end of the period is credited as a positive cash flow.

Reinvested dividends are not counted as cash flow, since from a cash flow point of view such transactions are zero-sum. In stead, they affect the performance later either from sales or from the value at the end of the period.

Investoscope calculates the IRR using an iterative method starting with a guess. The iteration continues until a sufficiently accurate result is reached. If a result cannot be found within 100 iterations, Investoscope will give up.

## 5.16   Portfolio Charts

The "Charts" pane displays your portfolio value over time:



You can choose between two chart types:

**Portfolio Value**  This chart plots the total value of the portfolio including the cash balance along with the deposited cash.

**Equity Value**  This chart plots the value of your open positions along with the cost basis. The cash balance is not included.

You can set the data range to be plotted with the "Period" pop up button.

**Note**    In order for the portfolio charts to be accurate, historical end-of-day quotes must be available for all instruments in your portfolio.

# Importing Transactions

Rather than entering your transactions manually, you can choose to import them from a file. Investoscope supports import from either CSV or OFX files. Most financial institutions let you download your transactions in one of these formats.

## 6.1 Importing Transactions from OFX

*Open Financial Exchange* (OFX) is a stardard for exchanging financial information. Investoscope supports import from OFX version 2 files. To import an OFX file, choose *File > Import > Transactions from OFX File....* Then, select the OFX file to import and click the *Open* button. You should then see a window like the following:
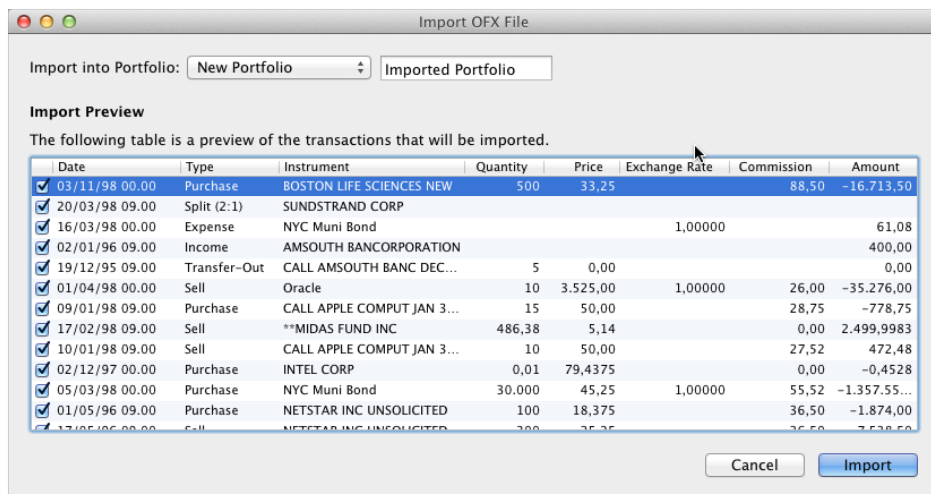


The checkboxes let you exclude individual transactions from the import. By default, Investoscope will exclude any transactions that it detects have already been imported

to the selected portfolio. To complete the import, choose a portfolio to import to and click the *Import* button.

## 6.2   Importing Transactions from CSV

*Comma Separated Values* (CSV) is a very generic tabular data format. This makes importing from CSV slightly more complicated than importing OFX (which was specifially designed for the kind of data that applications like Investoscope work with).

Note that Investoscope imports *transactions,* so please make sure that your CSV file actually contains your transactions and not just your current holdings. We will explain the process of importing a CSV file using an example:

**Example**   Say, we want to import a CSV file with the following content:

```
"2008-02-27","Purchase","EBS ",800,7.02,1.0000,22.00,-5638.00
"2010-05-03","Sell","DELL ",-500,16.46,1.0000,12.00,8218.00
"2007-11-02","Short Sell","MSFT ",-400,37.06,1.0000,40.00,14784.00
"2008-11-19","Sell","EBS ",-1200,20.15,1.0000,5.00,24175.00
"2010-07-14","Sell","VWS.CO",-100,267.00,0.1759,0.00,4696.53
"2007-10-04","Purchase","GOOG ",25,585.09,1.0000,40.00,-14667.25
"2007-12-08","Purchase","AAPL ",100,166.73,1.0000,40.00,-16713.00
"2007-12-01","Deposit",,,,,,50000.00
```

To begin the import, choose *File > Import > Transactions from CSV File...*, select the CSV and click the *Open* button.

**The Import Window**   You should now see the import window. The import window consists of two parts. The first part is the actual content of the CSV file, presented in a table. The second part is a preview of what transactions will be imported using the selected settings:
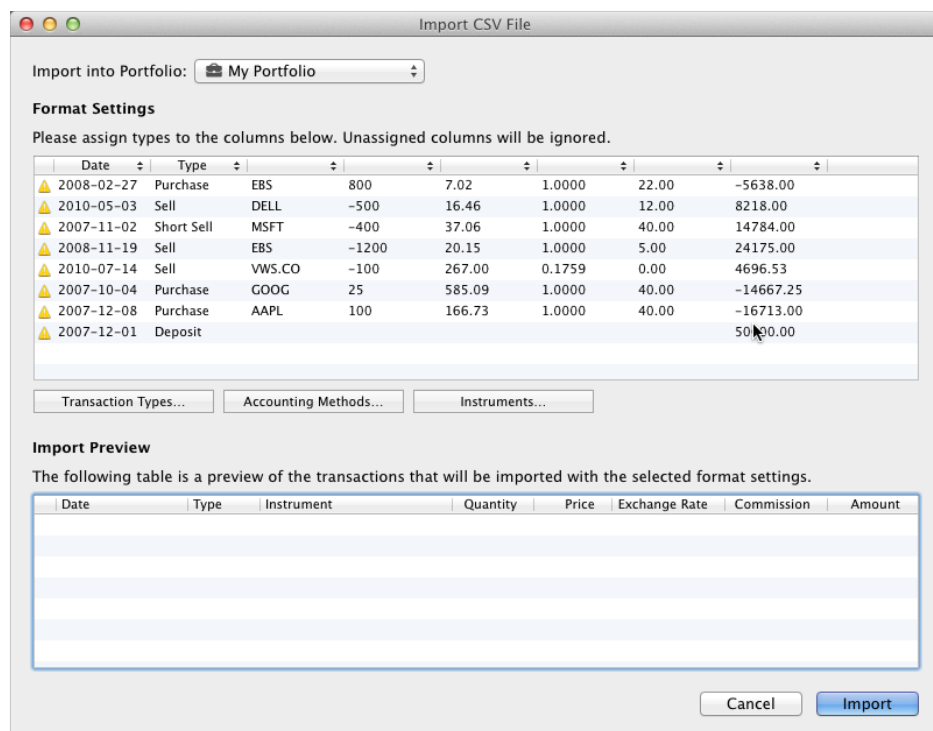
Above, you will notice that the preview area is empty. Also, note the warning triangle in each line. The warning triangle is displayed for each line that Investoscope is unable to import with the current settings. If you hover the mouse over the warning triangle, you should see a message indicating why the given line could not be imported. In our case, it says "No instrument column assigned". That is because we haven't yet told Investoscope what each column in the file means.

**Assigning Meaning to Columns**   Investoscope has already guessed that the first column is a date column and the second one specifies the transaction type. We need to tell Investoscope in which columns to find the instrument, the number of shares, the price, etc. To do that, click the on the column header and choose the appropriate field. After doing that, you should see the following:
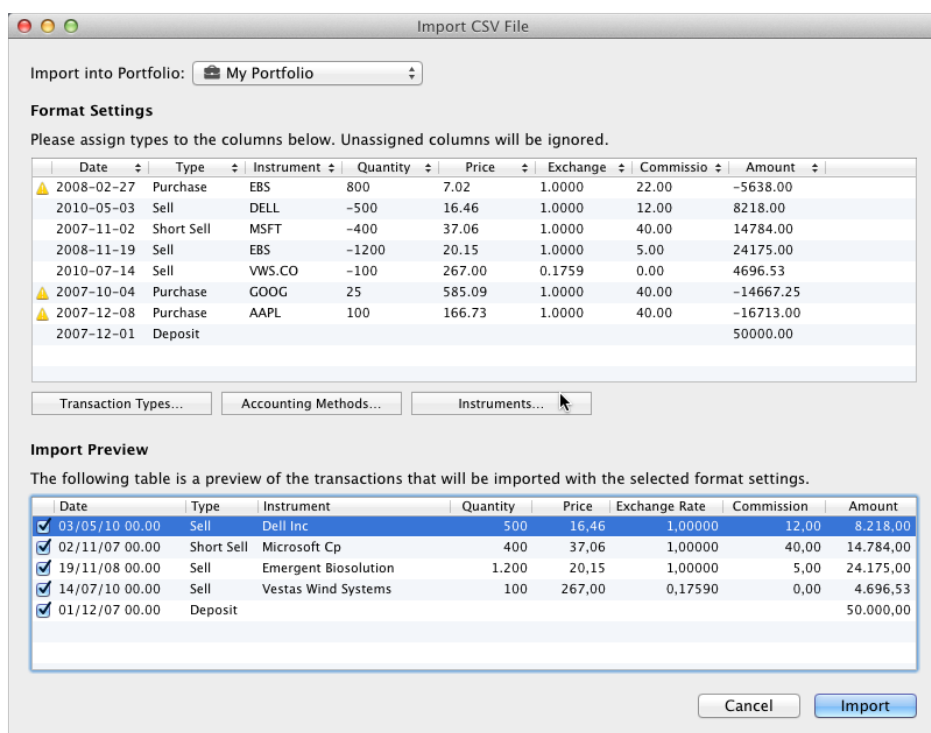
Investoscope will remember the chosen settings, so the next time you import a CSV file with a similar format, Investoscope will automatically associate the appropriate type to each column.

**Interpreting Transaction Types**    There are still three remaining warning triangles. Hovering the mouse over the first one, reveals the following message: "Transaction type 'PURCHASE' not recognized."  This means Investoscope doesn't know how to interpret 'PURCHASE' as a transaction type.  It should, of course, be interpreted as a Buy transaction. To instruct Investoscope to do this, click the *Transaction Tyoes...*  button.
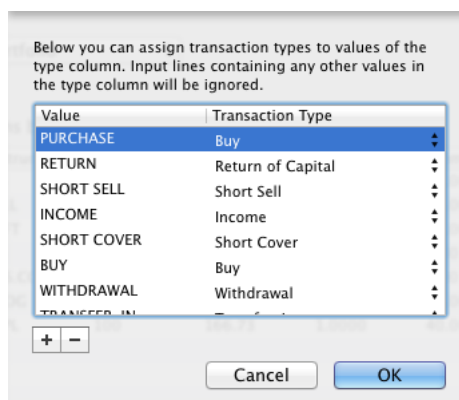
Here you can map the contents of transaction type column to Investoscope's transaction types. To proceed, click the + button and type "PURCHASE" (casing doesn't really matter here) in the value field and select "Buy" in the Transaction Type column as shown above.

Dividends and interest are recorded using Income transactions. When importing from CSV, the income category is determined is one of two ways:

1. An 'Income Category' column is assigned.

2. If no 'Income Category' column is assigned, the category is taken to be the contents of the transaction type column.

**Mapping to Instruments in Your Library**    The instruments referenced by the CSV file, must be in your library. If an instrument is not already in your library, you can switch to the main window and add without closing the import panel. If the instrument is in the library, Investoscope will often be able to determine the mapping from contents of the assigned instrument column to instruments in the library. Sometimes, though, you may need to help it along. You do that by clicking the *Instrument. . .* button.

# Watchlists

## 7.1 Monitoring the Markets

A watchlist is a custom collection of instruments. Watchlists allow you to organize and monitor instruments that you don't necessarilly own. There are two different kinds of watchlists in Investoscope: *Smart watchlists* and *regular watchlists*. Additionally, watch lists can be organized in *watchlist folders*.
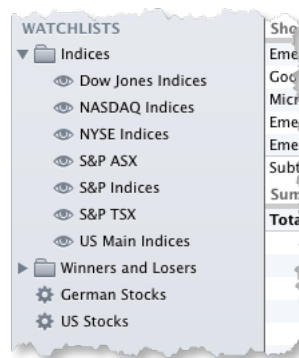


Smart watchlists contain all instruments that match the criteria you specify. Watchlist folders allow you to organize your watchlists in hierarchies. The contents of a watchlist folder is the union of the contained sub-watchlists. Regular watchlists, on the other hand, are managed directly, that is, you can drag instruments to them and delete instruments from them.

## 7.2 Creating a (Regular) Watchlist

To create a new watchlist, choose *File > New > Watchlist* from the main menu. A newly created watchlist will then appear in the source list and you can give it the name you

want:



## 7.2.1 Adding Instruments to Watchlists

You can add instruments to a watchlist by dragging them from anywhere else in Investoscope into the watchlist in the source list.

Alternatively, you can add instruments to a watchlist through the context menu. To do that, hold the Control key on your keyboard and click the instrument to open the context menu. Then, select the watchlist from the *Add to* menu:
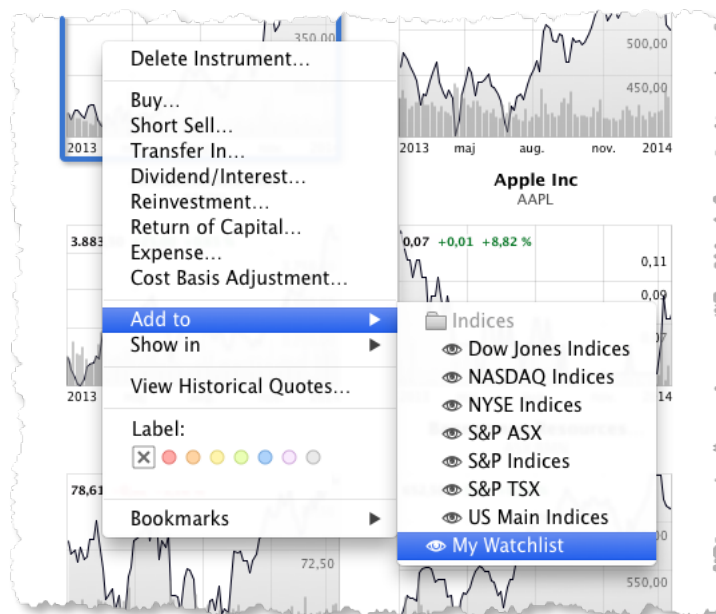


## 7.2.2 Removing Instruments from Wathclists

You can remove an instrument from a watchlist simply by selecting it and hitting the delete key on your keyboard. Alternatively, you can remove an instrument from a watchlist through the context menu. To do that, hold the Control key on your keyboard and click the instrument to open the context menu. Then, if the instrument is a member of any watchlist, you will find the submenu *Remove from* from which you can choose a watchlist to remove the instrument from:
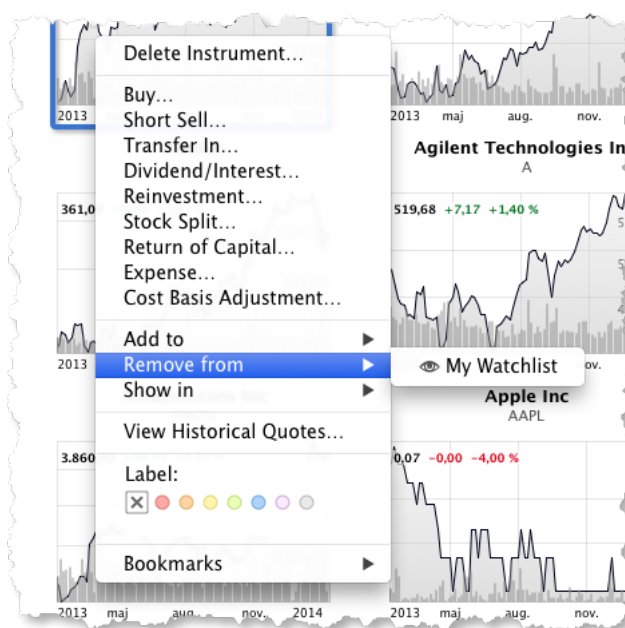
Removing an instrument from a watchlist will not delete it from the library.

## 7.3 Smart Watchlists

Smart watchlists are populated automatically based on some rules that you specify. You can create watchlists of certain types of instruments with certain labels or currencies, or instruments that match other rules you specify. Investoscope will update these smart watchlists automatically.

For example, you could create a Smart Watchlist with the 10 stocks with the highest change in percent today. Or you could create a Smart Watchlist with all stocks traded in a given currency. The possibilities are virtually endless.

### 7.3.1 Creating a Smart Watchlist

To create a smart watchlist, choose *File > New > Smart Watchlist...* This will bring up the following sheet:

Click to add another rule.

Select to specify rules. You can deselect this
to match all instruments in your library.

Hold the Option key to add
another compound rule



Limit the size of the watchlist.
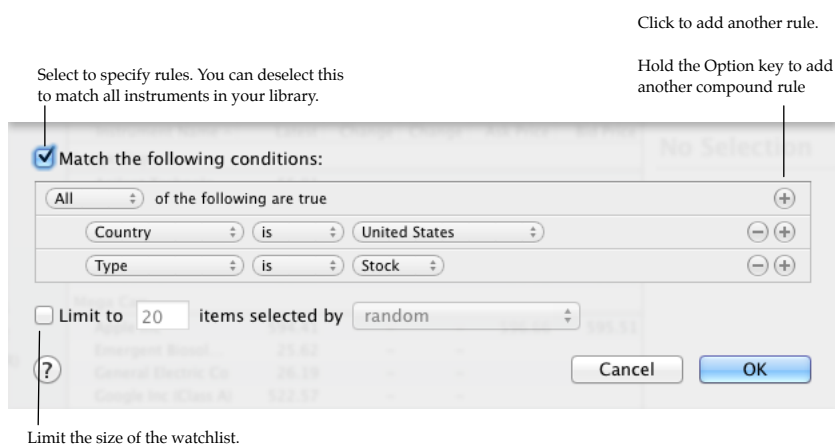
Above, we have chosen rules to include all US stocks. When you are done editing the filtering rules, click the *OK* button to create the watchlist. A newly created smart watchlist will then appear in the source and you can give it the name you want.

# Technical Charts

This chapter presents the technical charting capabilities of Investoscope. The reader is assumed to be familar with technical charting analysis.

Pressing enter on your keyboard with an instrument selected or double-clicking an instrument takes you to the technical chart view:

Above, you see an example of a technical chart for Amazon.com Inc. displaying the Bollinger Bands as overlay to the candlestick chart and below it, the MACD indicator.

At the bottom you find the *history map* which displays the entire available history of end-of-day prices and lets you select the date range to display.

The top-most chart contain the price data with or without *overlays*. You can configure the type of the price data chart (line, candlestick, etc.) by clicking the *Settings* button:
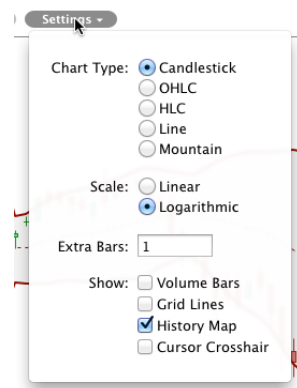
Here you can also switch between linear and logarithmic scaling of the y-axis, and choose whether or not to display volume bars, grid lines, history map and more.

## 8.1 Technical Indicators

Investoscope lets you display a large number of different *overlays* and *oscillators* with a large number of options for customizations.

To add a new indicator to the chart, first click the "Indicators" menu button to bring forth the indicators menu:



If you, for example, choose "Bollinger Bands" from the menu, that indicator will be added to the chart, and you can edit the parameters to your liking:
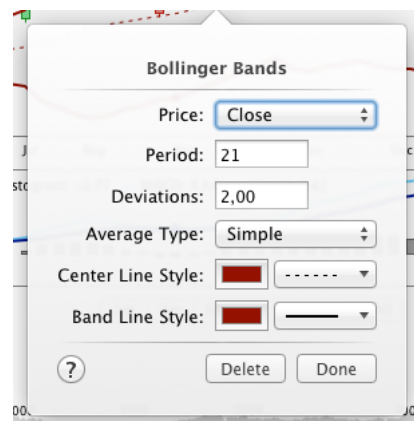
For help on the indicator, click the *?* button. To delete the indicator, click the *Delete* button. To hide the indicator pop over, you can either click the *Done* button or just anywhere outside the pop over. You can always bring up the indicator parameters again simply by clicking the indicator chart.

## 8.2 Working with Chart Templates

The configuration of a chart, i.e., the displayed indicators, scale and other settings can be saved in a *chart template*. A template includes all attributes of a chart except the instrument being displayed.

### 8.2.1 Saving a Template

Once you have set up your chart, you can save the configuration in a template. To save a template, click the *Template* menu button and choose *Save Current View as Template...*:
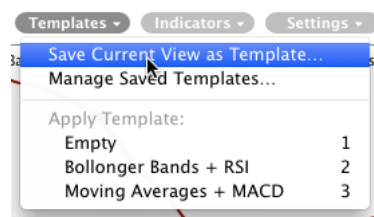


Then, type in the desired name of the template and click the *OK* button:
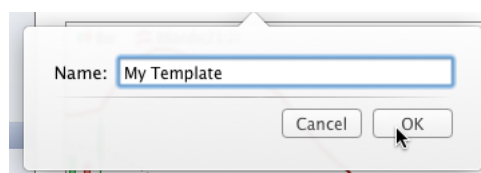
### 8.2.2 Applying a Template

When you apply a template the current view is replaced with the configuration saved in the template. To apply a template, click the *Template* menu button and choose the template from the menu:



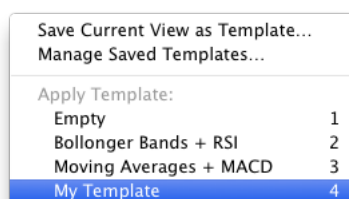Notice the keyboard shortcuts for the templates. The first 9 templates can be quickly applied from the keyboard with the keys "1" through "9".

### 8.2.3 Managing Your Templates

You can manage your existing templates by choosing *Manage Saved Templates...* from the template menu. This will bring up the following panel:
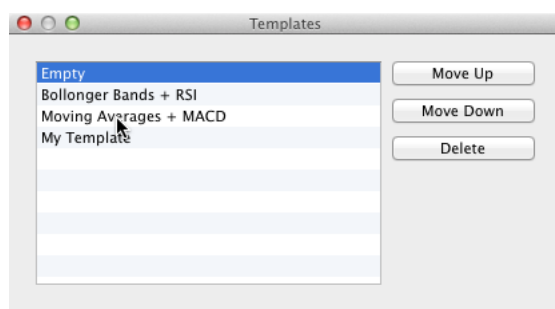


Here you can delete, rename and/or reorder your templates.

## 8.3 Lines and Text Annotations

From the *Draw* menu, you can add lines to the main chart to visually indicate trends and use text annotations to mark interesting points:

You can select the default color used to draw annotation with the color menu:
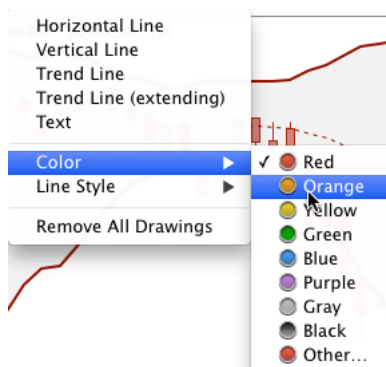


### 8.3.1 Drawing Lines

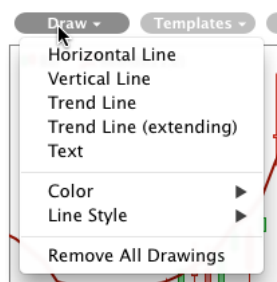Investoscope allows you to draw three types of lines: *horizontal lines*, *vertical lines* and *trend lines*. You can change the default line style from the *Line Style* menu:
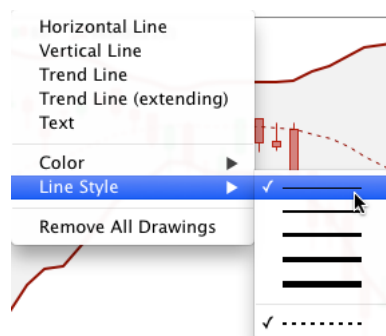


**Horizontal Lines**   Horizontal lines extend indefinitely backward and forward in time on a fixed price level. To draw a horizontal line, choose *Horizontal Line* from the *Draw* menu and click the mouse button on the main chart to set the price level. With the mouse held, you can move the price level up and down.

**Vertical Lines**   Vertical lines extend indefinitely up and down on the price axis at a fixed time. To draw a vertical line, choose *Vertical Line* from the *Draw* menu and click the mouse button on the main chart to set the time. With the mouse held, you can move the line back and forth.

**Trend Lines**   A *trend line* is defined by two anchor points. Trend lines come in two variations: extending and non-extending. Extending trend lines are extended indefinitely in both directions. Non-extending trend lines are only drawn between the anchor points. To draw a trend line, select either *Trend Line* or *Trend Line (extending)* from the *Draw* menu. Then click the mouse on the main chart to set the first anchor point and with the mouse button held down move it to the position of the last anchor point and release the mouse. You can move the anchor points, simply by clicking and dragging them.

### 8.3.2   Text Annotations

Text annotations can be used to mark points of interest on the chart. To add a text annotation, choose *Text* from the *Draw* menu and click the mouse button at the desired position of the main chart. To set a fixed maximum width of the text, drag the mouse, otherwise just release the mouse immediately. You can now enter the text you want:



To finish editing, just click somewhere else on the chart. You can later edit the text annotation by double-clicking it and move it around by clicking and dragging it with your mouse. You can change the color, alignment and font of a text annotation through the *Format* menu.

## 8.4   Printing Technical Charts

As with most screens in Investoscope, you can print the current chart, by choosing *File > Print...*
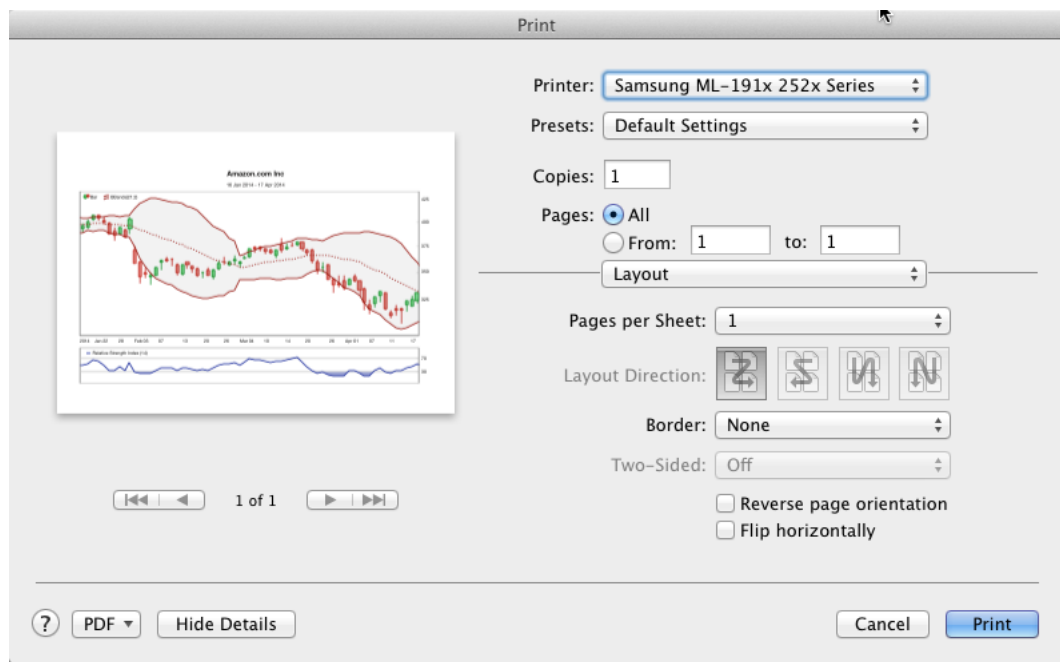
You can change the page layout by choosing *Page Setup…*

# Maintenance and Administration

## 9.1 Preferences

Investoscope's preferences are accessed by choosing *Investoscope > Preferences...* from the menu. The preference window consists of the panes:

- General

- Labels

- Portfolio

- Security

- Advanced

## 9.2 Customizing the Location of Investscope's Data

By default Investoscope keeps its data inside its application container. However, you can customize the location of Investoscope's data. This is done in the "Advanced" pane of the preferences:
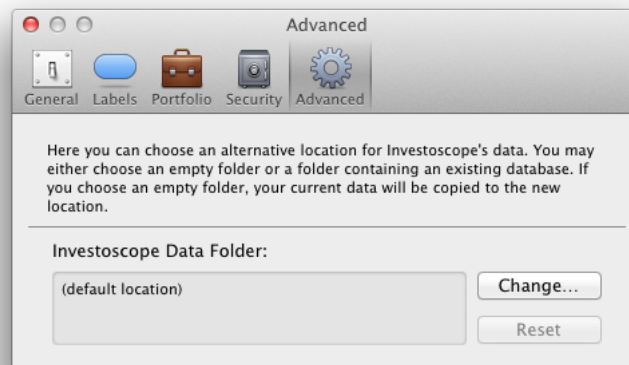
To change the data location, click on the *Change...* button and choose a folder. The chosen folder must either be empty or contain an Investoscope database. If you choose an empty folder, your data from the default location will be moved to the new location. If you, on the other hand, choose a folder that already contains a database, Investoscope will just switch to using the database at the new location and leave the data at the old location where it is.

To change the data location back to the default location inside the application container, click the *Reset* button.

## 9.3 Automatic Backups

As a user you typically invest a significant amount of time maintaining your data in Investoscope. To help you avoid losing your data, Investoscope automatically creates a backup of your database whenever you make any changes. Investoscope keeps backups from the last 30 days. You can open the automatic backup folder in the Finder by choosing *File > Open Automatic Backups Folder* from the menu.

## 9.4 Manually Backing Up and Restoring the Database

You can create a backup manually by choosing *File > Back Up Database...* from the menu and choose a location. To restore a backup, choose *File > Revert to Database Backup...* from the menu.

## 9.5 Transfering Your Database to Another Mac

You can use the backup/restore feature to transfer your database from one Mac to another with the following steps:

1. On the first Mac, create a backup of the database by choosing *File > Back Up Database...*

2. Transfer the backup to the second Mac, e.g., using an USB stick or over your local network.

3. On the second Mac, load the backup by choosing *File > Revert to Backup...*

## 9.6 Exporting Data

Most data in Investoscope can be exported to CSV (Comma Separated Values) files. The export options are available from the *File > Export* menu:
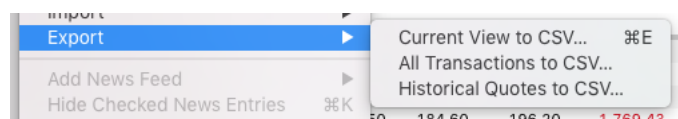


All table views, that is, all instrument lists, including watchlists and portfolio holdings, displayed in List View, as well as the Transactions and Realized panes of a portfolio can be exported to CSV. To do that, choose *File > Export > Current View to CSV...*. This will export currently the displayed rows and columns to a CSV file.

To export all transactions of a portfolio, first select the portfolio in the source list and then choose *File > Export > All Transactions to CSV...*

Finally, the historical quotes of an instrument can be exported to CSV. To do that, first select the instrument and then choose *File > Export > Historical Quotes to CSV...*.