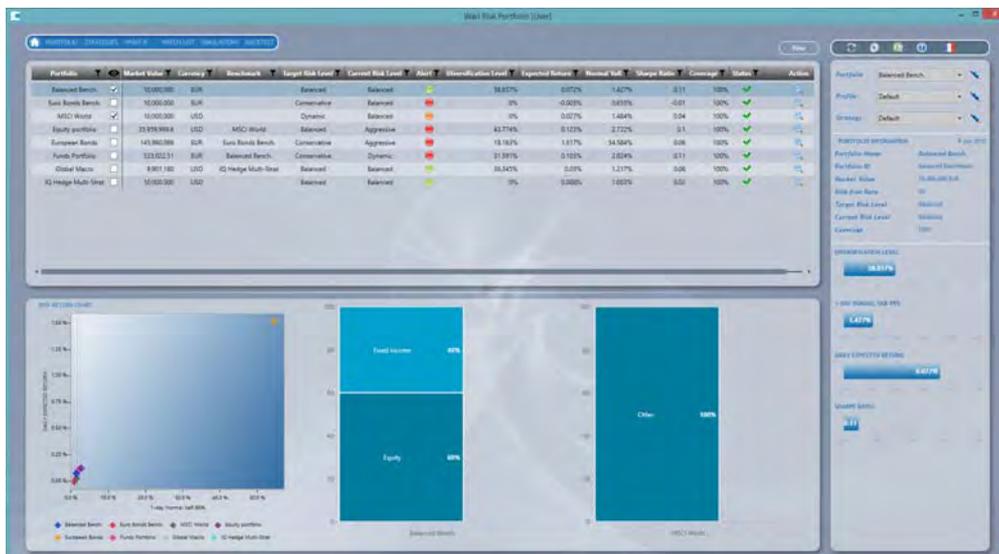


# Wall Risk Portfolio

## User Guide

### Raise Partner

7 December 2015



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# 1 Introduction to Wall Risk Portfolio

## 1.1 Main Features

Wall Risk Portfolio provides risk monitoring and pre-trade decision-aid functionalities, enabling you to:

- Monitor your portfolios using robust and cross-asset class risk measures;
- Identify the main sources of risk and performance within your portfolios;
- Simulate the impact of trades on the risk / return profile of your portfolios;
- Evaluate the added-value of introducing additional instruments in your portfolios;
- Identify deviations from the target risk profiles;
- Optimize your portfolios to meet the target risk strategies;
- Covers the following asset classes: stocks, bonds, funds, ETFs, FX, commodities, futures, options, certificates, convertible bonds, and structured products.

The chart below shows a typical user experience with Wall Risk Portfolio, from the risk alert to the remedial action on the portfolio.



Figure 1: End User Experience

## 1.2 Architecture

Wall Risk Portfolio is designed to interact with external providers:

- Data providers for the financial market data;
- Portfolio Management Systems for portfolio information via standard PMS export formats;
- Execution/Order Management Systems via standard export formats.

The chart below describes the interactions between the user, the calculation core and the data and portfolio providers:

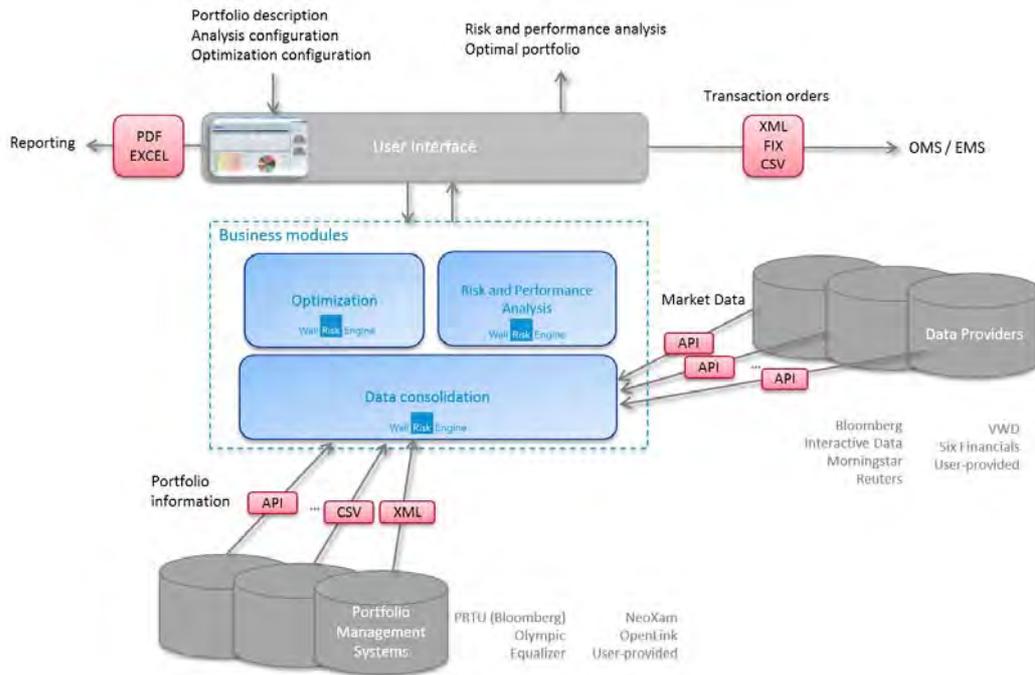


Figure 2: High-level architecture

## 2 Installing Wall Risk Portfolio

### 2.1 Activating the License

If you're a new user, you must modify your Windows Registry in order to use the Wall Risk Portfolio applications.

- 1) You'll receive a .REG file in your application delivery package. It may be named something like "raise\_B4-B6-76-05-40-65\_15012014.reg".
- 2) Copy the .REG file to your computer.

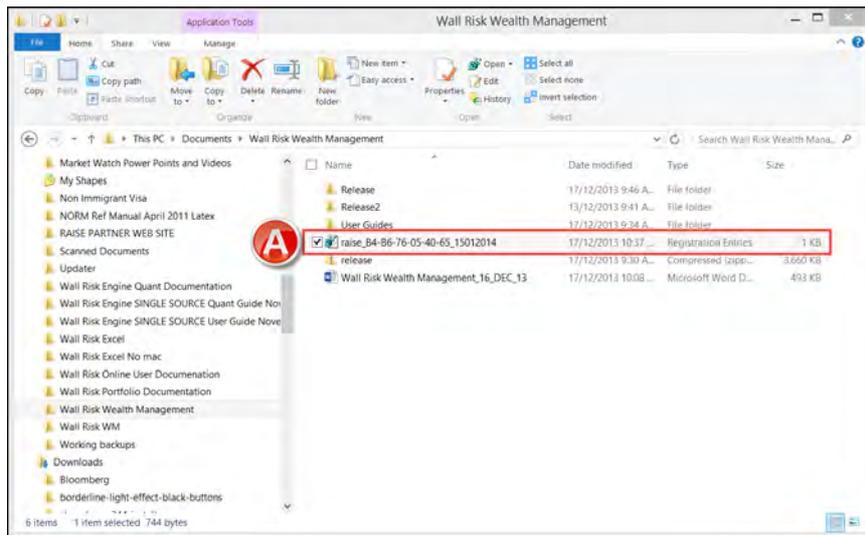


Figure 3: A) Copy the .reg file to a convenient directory.

- 3) Right click on the file name and select "Merge". Your Windows Registry settings are updated and you'll be able to use Wall Risk Engine applications. Please contact Raise Partner if you have any trouble with this procedure.

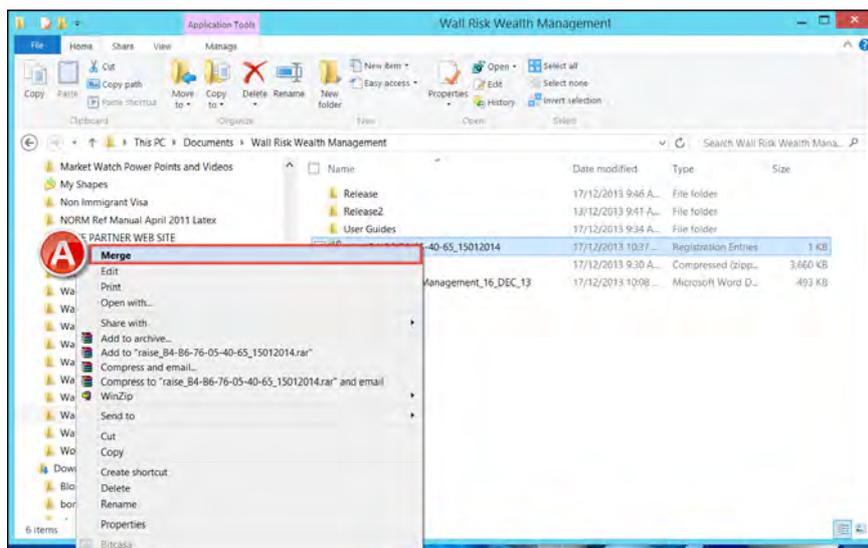


Figure 4: A) Right click on the file and choose Merge.

### 2.2 Running the Setup

- 1) Launch the Wall Risk Portfolio-<Version Number>-setup.exe file. The setup file will create a working directory in C:\Program Files (x86)\Raise Partner\Wall Risk Portfolio and will create a shortcut to the application on your desktop.

- 3) If you are a new user the setup file also creates the folder: c:\WRP to store offline portfolio files and your configuration file.
- 4) The setup file launches. Follow instructions in the window and click the Next button when necessary.



Figure 5: A) Click next when prompted.

- 5) After successful installation you can launch the application or open the working directory by leaving the options checked.



Figure 6: A) You can launch the application after installation

- 6) If you are a first-time user, please refer to section “The Application Data Folder WRP” on page 10 to see how to load your portfolios in the application.

## 3 Configuring Wall Risk Portfolio

You can configure you application settings by clicking the Gear icon (⚙️). In the Wall Risk Application Settings window you can configure your data and portfolio providers, to use as well as specify the location of your proxy definition file. You can also specify if you want to use the application offline.

### 3.1 Defining the Application Settings

#### 3.1.1 Data Providers

WRP comes with APIs for several data providers. In the application settings you can select and configure one or more data providers as well as the “User” data source if you want to supply your own data in csv files.

- Bloomberg: Log in to Bloomberg Anywhere to access financial data from Bloomberg;
- Morningstar: Enter your Morningstar login ID and password to access financial data from Morningstar;
- Interactive Data: Enter your customer id, login ID, and password to access financial data from Interactive Data;
- Thomson Reuters: Enter your login ID and password to access financial data from Thomson Reuters;
- Vwd: Enter your login ID and password to access financial data from Vwd;
- User: Enter the location of your data files and their format specifications.

You can check your access from the providers by entering your login information and clicking the Check Access button. Click Save when you’re done.

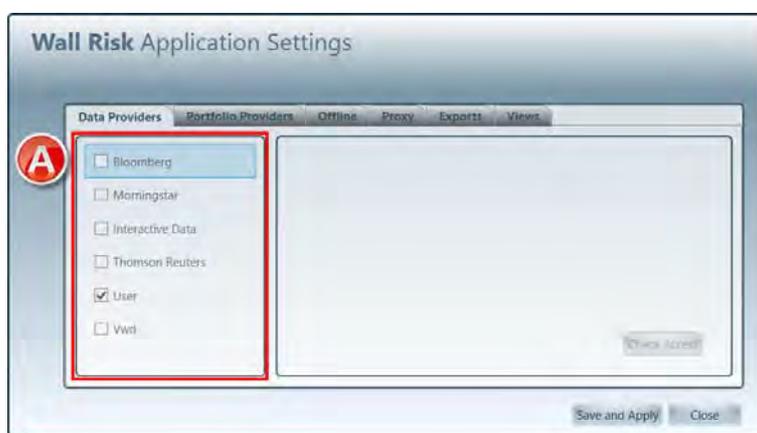


Figure 7: A) Assign data providers.

#### 3.1.2 Portfolio Providers

There are several portfolio providers available for Wall Risk Portfolio. The connection to these Portfolio Management Systems is done:

- Either via an API when provided by the PMS (e.g. Bloomberg PRTU)
- Or via a portfolio description file corresponding to the export format of the PMS.

You can choose one or more of the following portfolio providers from the Portfolio Provider tab. Select the portfolio provider and then enter the format specification and location of the import files. Use the Browse button to select the file. Click Save when you’re done.

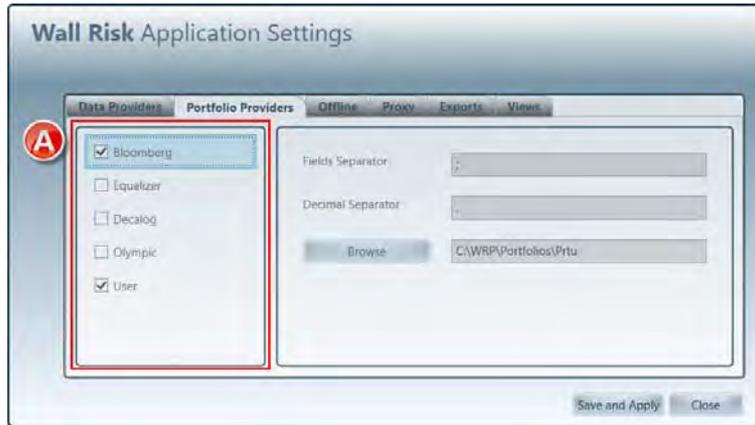


Figure 8: A) Assign portfolio providers

### 3.1.3 Offline Mode

Wall Risk Portfolio automatically saves one “offline” file each day containing the market and portfolio data upon closing the application. With the offline mode, you have the ability to deactivate the data feeds and portfolio providers and load data from the “offline” file instead.

In the Exports tab, mark Offline Export and then browse to the offline location. Click the Save and apply button.

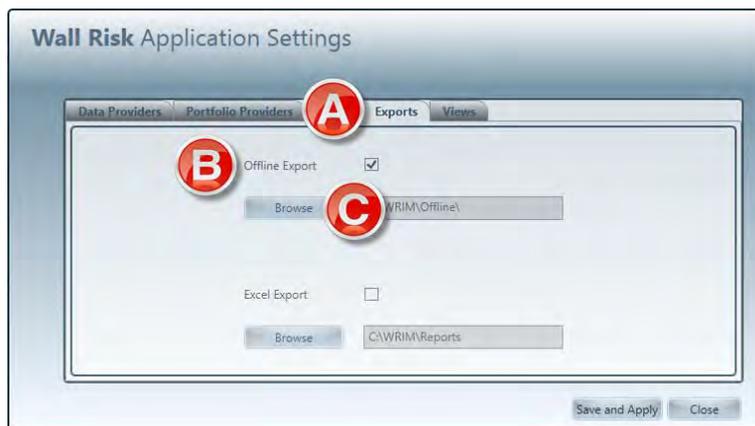


Figure 9: A) Exports Tab. B) Mark the Offline Export checkbox to enter offline mode. C) The folder where daily file and data is saved.

### 3.1.4 Proxies

You can assign an instrument to be a proxy for another instrument when market data is missing for the original instrument. The application uses historical data from the proxy in place of the other instrument when needed. The list of instrument and their associated proxies can be save in a csv file.

Click the Browse button and select the proxy file. If the file has a header then mark the Header checkbox. The application ignores header information if selected.

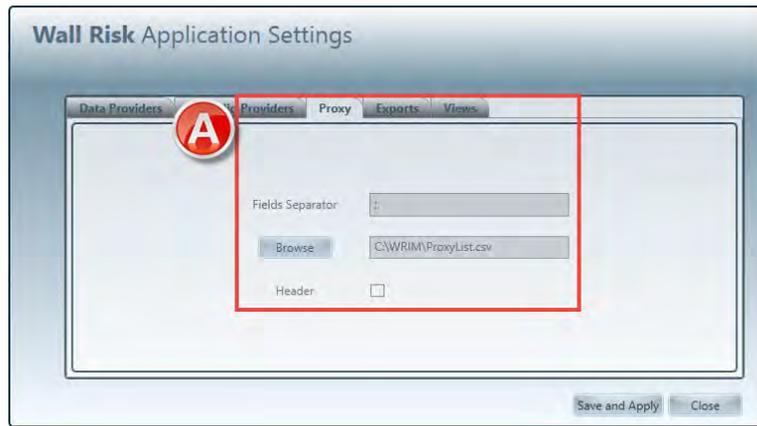


Figure 10: A) Use the Proxy tab to choose a location for the proxylist.csv file.

### 3.1.5 Exports



Figure 11: A) Configure Offline file location and B) where the Excel reports are saved.

### 3.1.6 Views

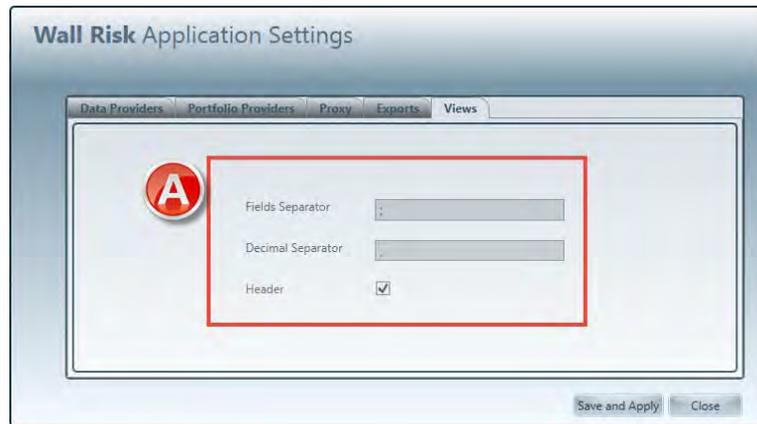


Figure 12: A) Configure Views setting.

## 3.2 The Application Data Folder WRP

The WRP folder contains all the information that you need to input into Wall Risk Portfolio. Note that the location and name of this folder can be specified when installing the application.

The WRP folder contains the following files and sub-folders:

- The Portfolios folder contains the description of the portfolios that you want to load in the application.
- The Data folder contains additional market data that you want to load in the applica-

tion and that is not available from your data provider.

- The Profiles folder contains the set of parameters that you will define in the application. This folder is empty when installing the application for the first time.
- The Offline folder contains the files containing all market and portfolio information automatically saved upon closing the application. This folder contains a sample offline file when installing WRP for the first time.
- The ProxyList.csv file contains the list of instruments and associated proxies.

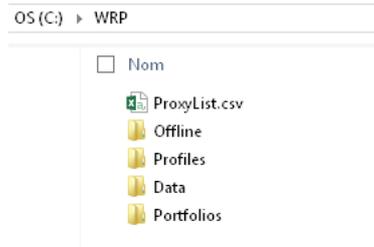


Figure 13: The WRP Folder

### 3.3 Configuring your Portfolios

#### 3.3.1 Description of the Portfolios Folder

The Portfolios folder contains all the information concerning the portfolios that you want to load in the application. The portfolios of a given portfolio provider are stored in a subfolder named after the portfolio provider: Equalizer, Olympic, Prtu or User.

Each portfolio is described in one or two separate csv files, depending on the data provider.

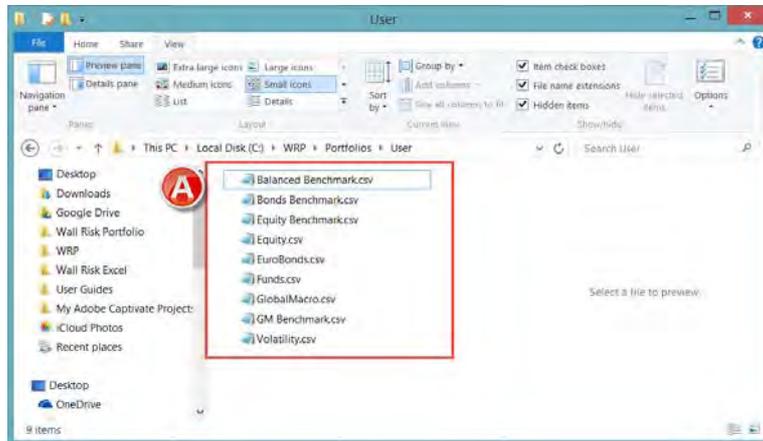


Figure 14: A) Navigate to the Portfolios folder.

#### 3.3.2 User Portfolios

The User portfolio format consists in a CSV file containing the description of the portfolio. The name of the file is the ID of the portfolio.

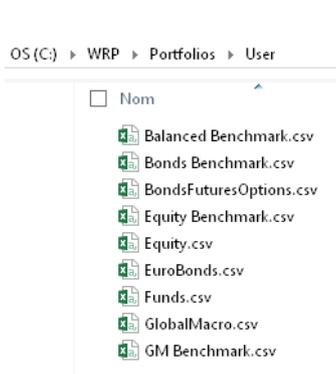


Figure 15: The Portfolios/User folder

The file contains all information required by the application to analyze the portfolio. The fields are described below. Mandatory fields are indicated with a \*.

- Name: Portfolio name as display in the application: if empty, the name is set to the portfolio ID.
- Currency\*: Currency of the portfolio.
- Target level\*: target risk level of the portfolio (among Conservative, Balanced, Dynamic or Aggressive). These risk classes are defined based on annualized volatility bands that are editable when installing the application.
- Benchmark: ID of the Benchmark if any. Note that the benchmark is just another portfolio that must be loaded in the application, from any portfolio provider. The benchmark will be used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.
- Amount type\*: *Cash* or *Total*
  - *Cash* means that the amount specified in the “Amount value” field is the cash position (in the portfolio currency)
  - *Total* means that the amount specified in the “Amount value” field is the total value of the portfolio. The cash position will be deduced from this amount to which the market values of the positions are subtracted.
- Risk-free rate: annualized risk free rate of the cash position. 0.3 stands for 0.3%.
- Position type\*: *Shares* or *Weights*
  - *Shares* means that the portfolio composition is given in the D column in terms of number of shares for each instrument
  - *Weights* means that the portfolio composition is given in the D column in terms of weights for each instrument (0.5 for 50%). Note that a portfolio defined with weights implies that the amount type filed is *Total* and not *Cash*.
- Portfolio composition
  - Name: name of the instrument as displayed in the application; if empty the name is set to the instrument ID;
  - ID\*: ID of the instrument (the type of ID depends on the data source);
  - Data source\*: Data provider for this instrument (Bloomberg, Morningstar, Reuters, Idc, Vwd or User);

- o Position\*: position for this instrument (the interpretation of this value depends on the value of the Position type field). If the position is zero, the instrument is considered as part of the watch list associated to this portfolio: it is not part of the portfolio but can be included in what-if trade simulations and optimization.
- o Sector: sector of the instrument.

1	Portfolio Name	Global Macro			
2	Currency	USD			
3	Target Level	Balanced			
4	Benchmark	GM Benchmark			
5	Amount type	Cash			
6	Amount value	0			
7	Risk-free rate	0			
8	Position type	Shares			
9	Name	ID	Data source	Position	Sector
10	ISHARES MSCI EMERGING MARKET	EEM US Equity	Bloomberg	10000	Equity
11	ISHARES MSCI JAPAN ETF	EWJ US Equity	Bloomberg	50000	Equity
12	SPDR EURO STOXX 50 ETF	FEZ US Equity	Bloomberg	10000	Equity
13	CURRENCYSHARES JAPANESE YEN	FXY US Equity	Bloomberg	5000	FX
14	SPDR GOLD SHARES	GLD US Equity	Bloomberg	10000	Commodities
15	ISHARES 7-10 YEAR TREASURY B	IEF US Equity	Bloomberg	10000	Fixed Income
16	POWERSHARES QQQ TRUST SERIES	QQQ US Equity	Bloomberg	18000	Equity
17	SPDR S&P 500 ETF TRUST	SPY US Equity	Bloomberg	10000	Equity
18	ISHARES 10-20 YEAR TREASURY	TLH US Equity	Bloomberg	3000	Fixed Income
19	UNITED STATES OIL FUND LP	USO US Equity	Bloomberg	20000	Commodities
20	IPATH S&P 500 VIX S/T FU ETN	VXX US Equity	Bloomberg	0	Equity
21	DOW JONES INDUS. AVG	INDU Index	Bloomberg	0	Equity

Figure 16: Description file for a User portfolio

### 3.3.3 PRTU Portfolios

To load a portfolio from Bloomberg <PRTU>, you need to create a csv file named after the PRTU portfolio ID (UXXXXXXXX-XX.csv):

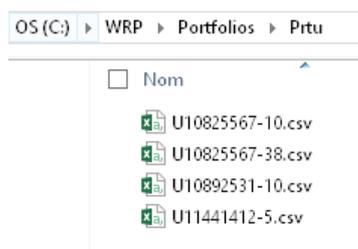


Figure 17: The Portfolios Folder

The positions of the portfolio are loaded via the Bloomberg API based on the portfolio ID. Only “Shares” portfolio can be loaded from PRTU.

The file contains additional information required by the application regarding the portfolio. The fields are described below. Mandatory fields are indicated with a \*.

- Portfolio name as displayed in the application: if empty, the name is set to the portfolio ID.
- Currency of the portfolio: not used for PRTU portfolio provider because a currency is associated to the Bloomberg portfolio.
- Target level\*: target risk level of the portfolio (among Conservative, Balanced, Dynamic or Aggressive). These risk classes are defined based on annualized volatility bands that

are editable when installing the application.

- Benchmark: ID of the Benchmark if any. Note that the benchmark is just another portfolio that must be loaded in the application, but not necessarily a PRTU portfolio. The benchmark will be used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.
- Amount type\*: *Cash* or *Total*
  - o *Cash* means that the amount specified in the “Amount value” field is the cash position (in the portfolio currency)
  - o *Total* means that the amount specified in the “Amount value” field is the total value of the portfolio. The cash position will be deduced from this amount to which the market values of the positions are subtracted.
- Risk-free rate: annualized risk free rate of the cash position. 0.3 stands for 0.3%.
- Position type\*: *Shares* only
  - o *Shares* means that the portfolio composition is given in the D column in terms of number of shares for each instrument
- Portfolio composition (additional instruments or watch list)
  - o Name: name of the instrument as displayed in the application; if empty the name is set to the instrument ID.
  - o ID\*: ID of the instrument (the type of ID depends on the data source).
  - o Data source\*: Data provider for this instrument (Bloomberg, Morningstar, Reuters, Idc, Vwd or User);
  - o Position\*: position for additional instruments to be added to the PRTU portfolio. If the position is zero, the instrument is considered as part of the watch list associated to this portfolio: it is not part of the portfolio but can be included in what-if trade simulations and optimization.
  - o Sector: sector of the instrument.

	A	B	C	D	E
1	Portfolio Name	My Portfolio			
2	Currency				
3	Target Level	Balanced			
4	Benchmark	U10825567-38			
5	Amount type	Cash			
6	Amount value	0			
7	Risk-free rate	0,3			
8	Position type	Shares			
9	Name	ID	Data source	Position	Sector
10	TELEKOM AUSTRIA AG	TKA AV Equity	Bloomberg	173812	Telecommunication Services
11	VERBUND AG KAT, A	VER AV Equity	Bloomberg	26648	Utilities
12	UCB	UCB BB Equity	Bloomberg	39097	Health Care

Figure 18: Description file for a PRTU portfolio

### 3.3.4 Equalizer Portfolios

Wall Risk Portfolio can load both Client and Model portfolios from Equalizer standard export formats described below:

	A	B	C	D	E	F	G	H	I	J	K
1	Policy : xxxx.Security by ISIN Query : GPM 021 divers ( calv&cast) ( 4 clients ) Current Client : GPM 021 divers ( calv&cast)										
2	Criteria : Pos-Instrument + Pos-Devise origine (ISO) + Val-Libellé + Val-ISIN + Cli-Intitulé										
3	Currency : EUR Current Path : All Assets										
4	Cli-Numéro	Val-ISIN	Quantité	Val-Libellé	Pourcent	Pos-Instrum	Estimation	Pos-Devise c	Montant d'oi	Pos-Estimati	Ord.Status
5	913362				4,58	DEPOSITI	9153779,39	EUR	9153779,39	9153779,39	
6	913362				3,4	DEPOSITI	6790000	EUR	6790000	6790000	
7	913362				2,93	Termijn cont	5849863,55	EUR	5849863,55	5849863,55	
8	913362				1,2	DEPOSITI	2387000	EUR	2387000	2387000	
9	913362				1,15	Termijn cont	2294849,71	EUR	2294849,71	2294849,71	
10	913362	XS084188212	2200000	BRE FIN.FRAI	1,12	OBBLIGAZIOI	2245254	EUR	2245254	2245254	
11	913362	XS058051993	1875000	BANCO DO B	0,97	OBBLIGAZIOI	1944375	EUR	1944375	1944375	
12	913362	XS054044909	1800000	BANCO NAC	0,96	OBBLIGAZIOI	1908000	EUR	1908000	1908000	
13	913362	XS056346384	1550000	STATE BK INC	0,81	OBBLIGAZIOI	1610140	EUR	1610140	1610140	
14	913362	XS065115948	1575000	SANTAN COF	0,79	OBBLIGAZIOI	1580512,5	EUR	1580512,5	1580512,5	
15	913362	XS022079093	1500000	GAZPROM 5,	0,78	OBBLIGAZIOI	1555875	EUR	1555875	1555875	
16	913362	XS080558201	1400000	GAZPROM 3,	0,73	OBBLIGAZIOI	1455230	EUR	1455230	1455230	
17	913362	XS077701737	1350000	G4S INTL FIN	0,71	OBBLIGAZIOI	1412950,5	EUR	1412950,5	1412950,5	
18	913362	XS024410528	1350000	VTB CAPITAL	0,68	OBBLIGAZIOI	1357128	EUR	1357128	1357128	
19	913362	XS025097122	1350000	MORGAN ST,	0,68	OBBLIGAZIOI	1349527,5	EUR	1349527,5	1349527,5	
20	913362	XS080200528	1250000	REP OF BULG	0,67	OBBLIGAZIOI	1346875	EUR	1346875	1346875	
21	913362	XS089320518	1350000	VEB FINANCI	0,67	OBBLIGAZIOI	1343925	EUR	1343925	1343925	
22	913362	XS079499005	1125000	MANPOWER	0,63	OBBLIGAZIOI	1256231,25	EUR	1256231,25	1256231,25	
23	913362	XS056930132	1125000	TELEMAR NC	0,6	OBBLIGAZIOI	1202625	EUR	1202625	1202625	

Figure 19: Sample file of a client portfolio from Equalizer

	A	B	C	D	E	F	G	H	I	J	K
1	Chemin	Val-ISIN	Poids en % (i	Upper Limit	Lower Limit	Prf-Date init	Initial Weigh	Holding Days	Prf-Performa	Commentair	Value Comm
2			100			21/08/2013	100	329			
3	/ ..Cash..		5			21/08/2013	5,5	329	0		
4	/ Unallocated		0				0	0			
5	/ DEUT.PFANDE000A1X26I		6			04/04/2014	6	103	0,89		
6	/ LYXOR UCITFR000705435		3			04/04/2014	3	103	-2,16		
7	/ RENAULT 3FR001156896		4,5			23/04/2014	4,5	84	1,8		
8	/ ISHARES S+ IE0031442064		2,5			04/04/2014	2,5	103	7,81		
9	/ VITRUVIUS LU014875344		3,5			21/08/2013	3,5	329	12,01		
10	/ PARVEST B LU024933261		3			21/08/2013	3	329	5,27		
11	/ BPVN ENH LU031506085		10			21/08/2013	10	329	1,47		
12	/ BPVN ENH LU031506107		6			21/08/2013	10	329	6,35		
13	/ BPVN ENH LU031506123		14			21/08/2013	14	329	1,31		
14	/ ROYAL BK S NL000906221		4			23/09/2013	4	296	3,56		
15	/ PETROBRAS US71645WAF		5			16/06/2014	5	30	-0,2		
16	/ REP OF LITH XS032730400		6			04/04/2014	6	103	1,26		
17	/ REP OF HUF XS036947039		4,5			04/04/2014	4	103	2,63		
18	/ RHOEN-KLI XS049104715		5			21/08/2013	5	329	1,05		
19	/ BRE FIN.FR XS084188212		6			21/08/2013	5	329	0,99		
20	/ TELEFONIC XS091299216		6			04/04/2014	6	103	1,43		
21	/ CONTINEN XS095319963		6			04/04/2014	6	103	0,76		

Figure 20: Sample file of a model portfolio from Equalizer

An additional file is required to provide necessary portfolio information for Wall Risk Portfolio. The fields are described below. Mandatory fields are indicated with a \*.

- Portfolio name as displayed in the application: if empty, the name is set to the portfolio ID.
- Currency\* of the portfolio: used only for model portfolios.
- Target level\*: target risk level of the portfolio (among Conservative, Balanced, Dynamic or Aggressive). These risk classes are defined based on annualized volatility bands that are editable when installing the application.
- Benchmark: ID of the Benchmark if any. Note that the benchmark is just another portfolio that must be loaded in the application, but not necessarily a portfolio from the same portfolio provider. The benchmark will be used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.

- Amount type: not used for Equalizer
- Risk-free rate: annualized risk free rate of the cash position. 0.3 stands for 0.3%.
- Position type: not used for Equalizer
  - o Model portfolios are always defined with weights;
  - o Client portfolios are always defined with shares.
- Portfolio composition (additional instruments or watch list)
  - o Name: name of the instrument as displayed in the application; if empty the name is set to the instrument ID.
  - o ID\*: ID of the instrument (the type of ID depends on the data source).
  - o Data source\*: Data provider for this instrument (Bloomberg, Morningstar, Reuters, Idc, Vwd or User);
  - o Position\*: position for additional instruments to be added to the Equalizer portfolio. If the position is zero, the instrument is considered as part of the watch list associated to this portfolio: it is not part of the portfolio but can be included in what-if trade simulations and optimization.
  - o Sector: sector of the instrument.

	A	B	C	D	E
1	Portfolio Name	My Portfolio			
2	Currency				
3	Target Level	Balanced			
4	Benchmark	U10825567-38			
5	Amount type	Cash			
6	Amount value	0			
7	Risk-free rate	0,3			
8	Position type	Shares			
9	Name	ID	Data source	Position	Sector
10	TELEKOM AUSTRIA AG	TKA AV Equity	Bloomberg	173812	Telecommunication Services
11	VERBUND AG KAT, A	VER AV Equity	Bloomberg	26648	Utilities
12	UCB	UCB BB Equity	Bloomberg	39097	Health Care

Figure 21: A) Data file for Equalizer

### 3.4 Defining Proxies

For instruments that are not included in calculations due to insufficient historical data you can assign a proxy. The historical data of the proxy is used in place of the instrument in your portfolio when needed.

- 1) In the Portfolio screen you'll be able to identify the instrument with insufficient historical data by the red cross(☒) in the Included column and the mouse over information. Note the ticker symbol of the instrument.
- 2) Open the csv file ProxyExcel.csv in the WRP folder. For a first-time installation, the WRP folder contains a sample proxyExcel.csv file.

In the Ticker column enter the Bloomberg ID of the instrument you want to replace. In the Proxy column enter the Bloomberg ticker symbol to be used as a proxy.

Save the file to the folder c:\WRP.

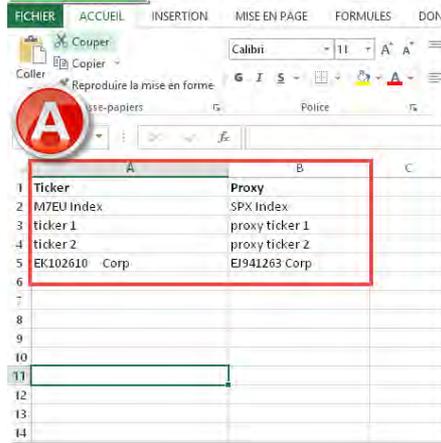


Figure 22: A) Enter the Bloomberg ticker symbols for the original instrument and the proxy.

- Restart or refresh the application. Notice that a warning icon is displayed in the Portfolio screen if the proxy is used in place of the original instrument.

### 3.5 Loading User-Provided Market Data from CSV Files

If you want to use your own market data in addition to (or in place of) the available data providers, you can configure the tool to read your .csv files that contain a list of your instruments and individual .csv files for historical data for each instrument.

The .csv files are stored in the c:\WRP\Data folder.

- In the portfolio description file, set the Data Source column to “User” for any instrument for which you want to use your own data.
- Save the file.

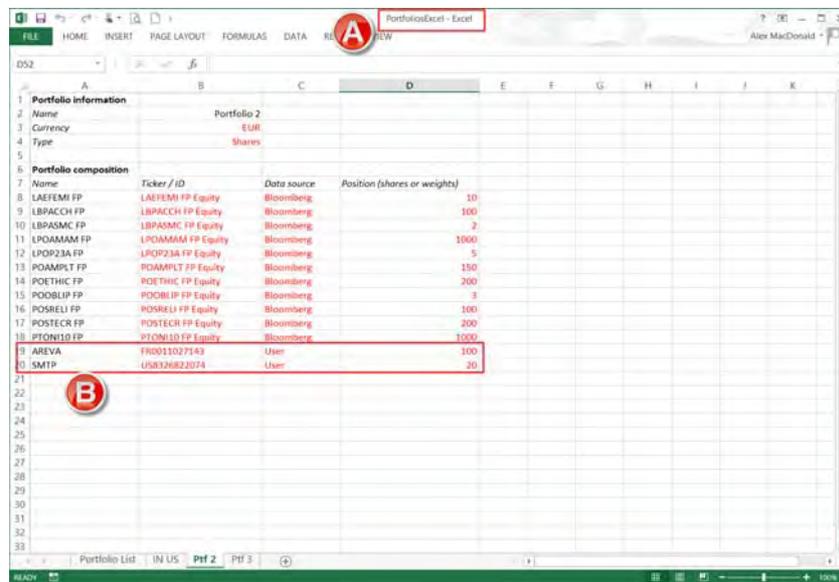


Figure 23: A) The PortfoliosExcel file. B) Data source set to User.

- Add the instruments to the file c:\WRP\Data\instruments.csv. A sample instruments.csv file is provided when installing the application.

The separators of the data file can be specified in the application settings, as mentioned earlier in the document. Each record consists of fields that are separated by columns. Several of the fields are mandatory. There is a line return between every record. In order, the fields are:

- **Id**: the ID of the instrument (e.g. ticker, ISIN). This field is mandatory.
- **Name**: not mandatory, just a label.
- **Type**: Should be "Linear", "Option", "Bond", "ConvertibleBond". This field is mandatory.
- **Instrument currency**: The name of the currency (ISO code: EUR, USD, GBP, etc.) This field is mandatory.
- **Instrument last price**: last price of the instrument (double). This field is mandatory.
- **Factor ID**: The ID of the factor. It will be used in order to load the price history by looking for a file located in the directory "histories" named "<ID Factor>.csv". This field is mandatory.
- **Factor currency**: Currency of the factor, can be different than the Instrument's currency (ISO Code). This field is mandatory.
- **1st order factor sensitivity**: Delta or Duration or CV\_Delta (double).
- **2nd order factor sensitivity**: Gamma, Convexity, CV\_Gamma (double).
- **Time sensitivity (theta)**: Theta, CV\_Theta (double).
- **Quotation type**: Percentage or not: "Y" or "N". This field is mandatory for bonds.
- **Par value**: Nominal for Bonds (for Bloomberg it is 1000) (double, must be positive or null).
- **Contract size**: Contract size for Options. (double, must be positive or null).
- **Parity**: Parity of Convertible Bonds. (double, must be positive or null).

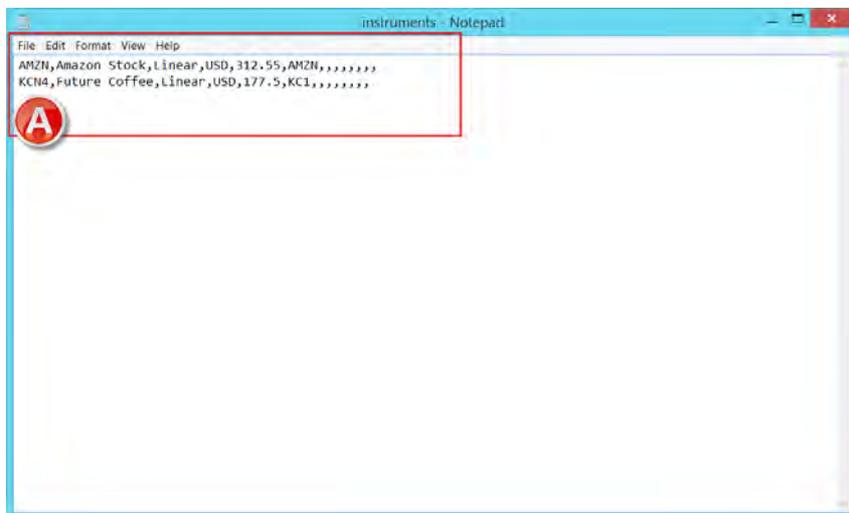


Figure 24: A) Instruments in your portfolios with user defined historical data. Notice each field is separated by a comma.

- 4) Save the instruments.csv file to C:\WRP\Data.
- 5) For each instrument name create a csv file to store historical prices of the corresponding factor. Save the files to C:\WRP\Data\histories. The name of the file must match the ID of the instrument in the instruments.csv file.

Each record has two fields separated by a column. In order, the fields are:

- **Date** : date of the price in the chosen format;
  - **Value** : the price at that date.
- 6) Save the files to C:\WRP\Data\histories.
  - 7) Close all the .csv editors that you used to edit your .csv files.
  - 8) Restart or refresh the application.

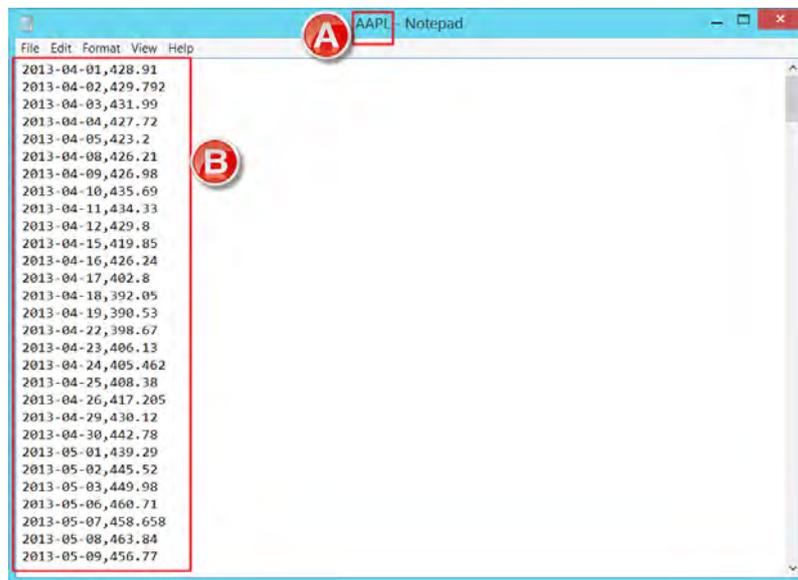


Figure 25: A) Ticker symbol and B) Historical data.

### 3.6 Defining Tailored Risk Levels

Wall Risk Portfolio provides a pre-defined set of qualitative risk levels mapped with quantitative risk intervals. The mapping is defined using annualized volatility intervals and can be tailored at the installation with up to 8 profiles. The default mapping is described below:

- Conservative: [0%;5%] annualized volatility;
- Balanced: [5%;10%] annualized volatility;
- Dynamic: [10%;15%] annualized volatility;
- Aggressive: annualized volatility larger than 15%.

## 4 Managing your Profile Information

### 4.1 Profile Descriptions

The active profile determines the way Wall Risk Portfolio makes calculations, runs simulations, and handles cash for simulations. You can have one or more profiles and can configure each one in many ways. You may want to set up profiles that calculate risk with different time horizons or estimation windows, or that have different optimization parameters.

The profile configuration is global. That is, the selected active profile affects all portfolios.

A profile consists of a set of parameters described below. For more information about the quantitative models used in Wall Risk Portfolio, please refer to the “Analytics documentation”.

The active portfolio, profile, and strategy are displayed at the top of the right side panel. To change any active element, select from the dropdown box. To configure your portfolios, profiles or strategies click the pen icon c for that element. For more information about profile and strategy management, please see the appropriate section.

#### 4.1.1 Risk calculation parameters:

In the Risk Calculation tab, you configure how Wall Risk Portfolio calculates your portfolio’s risk measures.

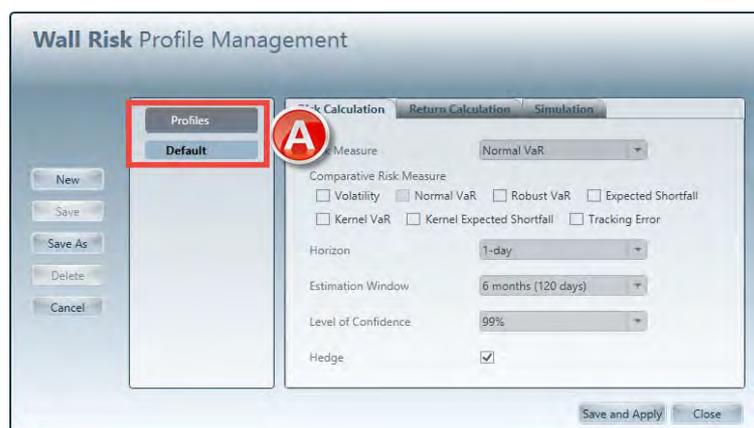


Figure 26: A) Risk Calculation parameters include risk measure, horizon, and level of confidence.

Field	Definition
Risk Measure	You can choose the following available risk measures: Volatility, Tracking Error, Normal VaR, Expected Shortfall, Robust VaR, Kernel VaR, Kernel Expected Shortfall. Tracking Error is only available if you have a benchmark selected.
Horizon	Horizon: is the horizon of the risk calculation (1 day, 1 week, 1 month or 1 year). When computing daily VaR, the results are an estimation of the worst expected loss for the next trading day. The next trading day is a horizon of one day.
Estimation Window	The amount of historical data, used to calibrate the risk model. You can choose 1 month (20 days), 3 months (60 days), 6 months (120 days), or 1 year (252 days).
Level of Confidence	Level of Confidence applies only for VaR and Expected Shortfall measures and can be set to 90%, 95%, 97% or 99%.

Hedge

If the hedge parameter is unchecked, then the FX risk is taken into account in the risk calculation. In other words: the market data used for the risk calculation is converted to the portfolio currency (historical prices, sensitivities).

If checked: then we consider that the FX risk is hedged outside of this portfolio, so the FX risk is not taken into account in the portfolio risk calculation. In other words: the market data used for the risk calculation is NOT converted to the portfolio currency, but used instead in its original currency.

4.1.2 Return calculation parameters:

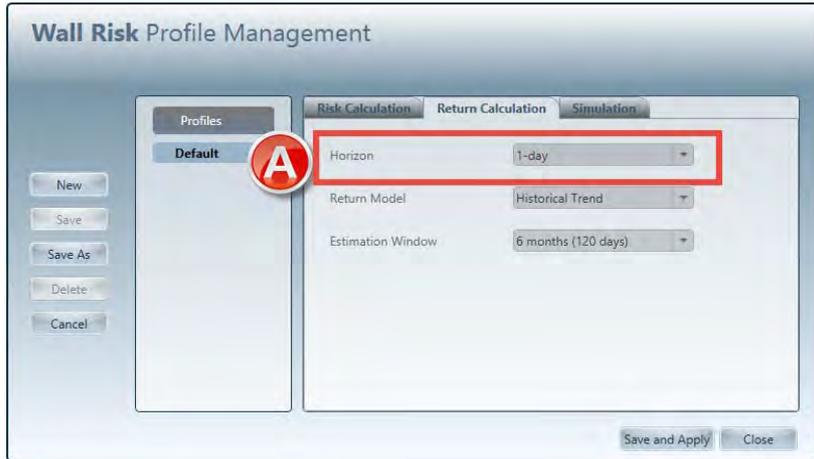


Figure 27: A) Configure the horizon of your risk calculation.

Field	Definition
Horizon	Horizon: is the horizon of the return calculation (1 day, 1 week, 1 month or 1 year).

4.1.3 Simulation parameters:

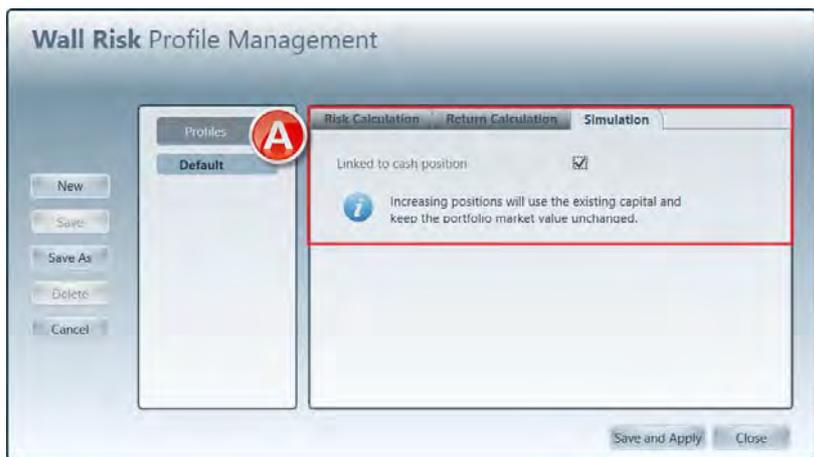


Figure 28: A) Configure whether your simulation is linked to cash position.

Field	Definition
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Link to cash position In the Simulation tab configure whether your simulations affect your cash level. You can configure whether increasing positions in simulation mode is linked to the cash position or not. If it is linked to the cash position, your cash position decreases when you add assets to your portfolio while running a simulation.

## 4.2 Choosing an Active Profile

At installation the Default profile is the active profile. You can change the active profile once you've created additional profiles. For more information see "Creating a New Profile" on page 23.

- 1) Click the Profile Management icon (🔧) on the Information panel. The Wall Risk Profile Management window displays.

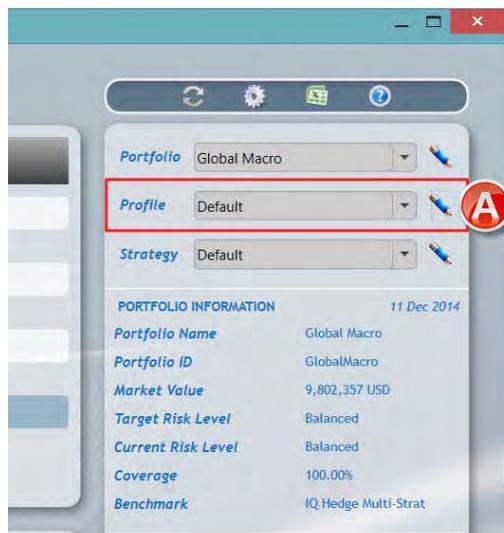


Figure 29: A) Click the Profile Management Icon.

- 2) Choose the profile that you want to be active from the Profiles list. Then click the Save and Apply button.

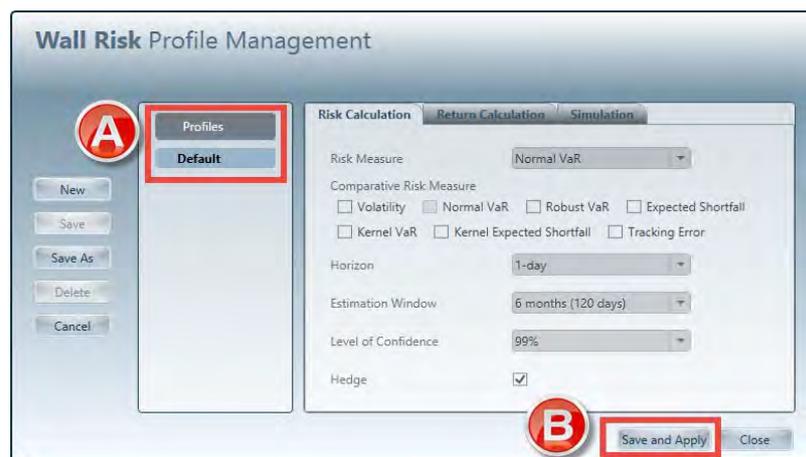


Figure 30: A) Choose a Profile. B) Click Save and Apply

- 3) Click the Close button to return to your portfolios. All your portfolios will be analysed using the profile you applied.

## 4.3 Creating a New Profile

- 1) Click the Profile Management icon (🔧) on the Information panel. The Wall Risk Profile

Management window displays.

- 2) Click the New button. In the Create New Profile window enter the name of the new profile.
- 3) Click Ok.

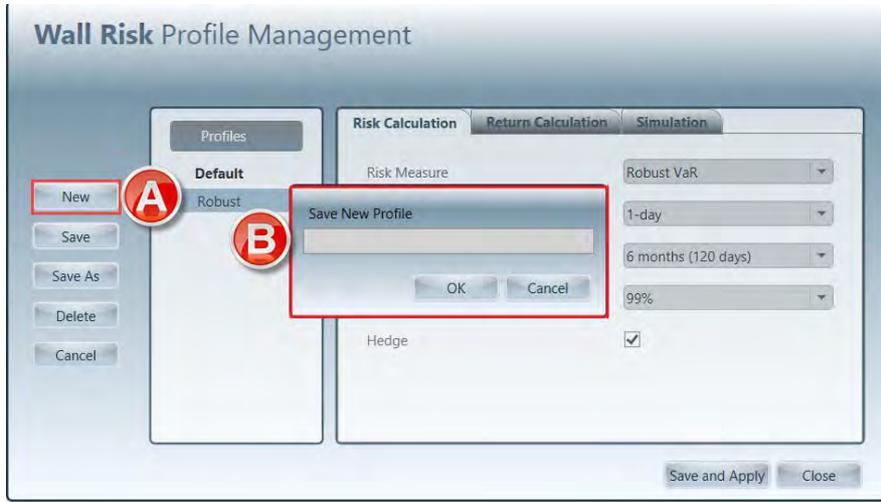


Figure 31: A) Click the New button. B) Enter the name off the new profile.

- 4) Configure the profile by choosing tabs and setting parameters for calculations, simulations, and optimization. For more information, please see “Profile Descriptions” on page 20.

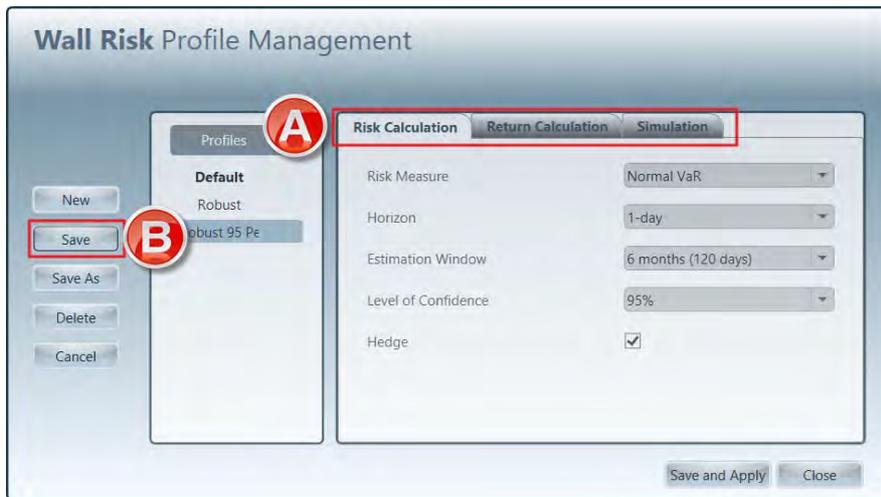


Figure 32: A) Set the parameters for the new profile. B) Click Save.

- 5) Click Save when you’re done.
- 6) Click Close to go back to your profiles.

#### 4.4 Duplicating a Profile

Duplicating a profile allows you to copy an existing profile and then make changes to that profile.

- 1) Click the Profile Management icon( ) on the right side panel. The Wall Risk Profile Management window displays.
- 2) Choose the profile you want to duplicate and then click the Save As button.



Figure 33: A) Choose the profile you want to duplicate. B) Click Save As.

- 3) In the Save New Profile window enter the name of the duplicated profile.

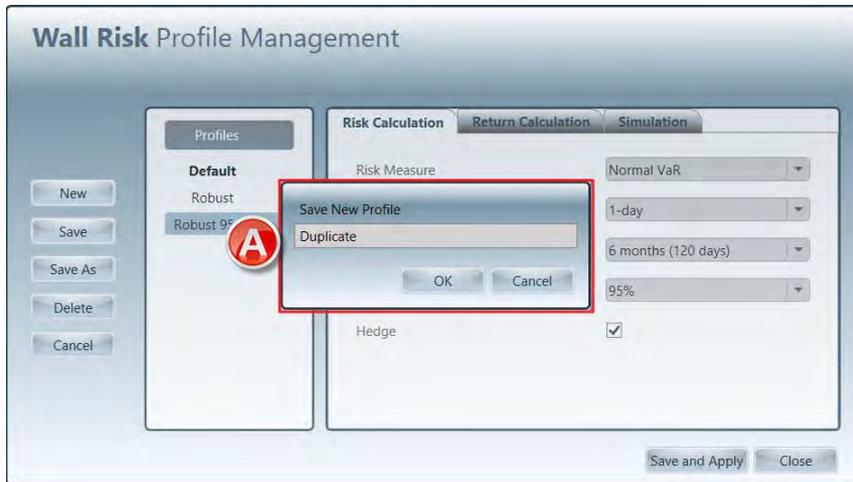


Figure 34: A) Name the duplicated file.

- 4) Click Ok. The new profile displays in the list of profiles. The profile has the same parameters as the original profile.

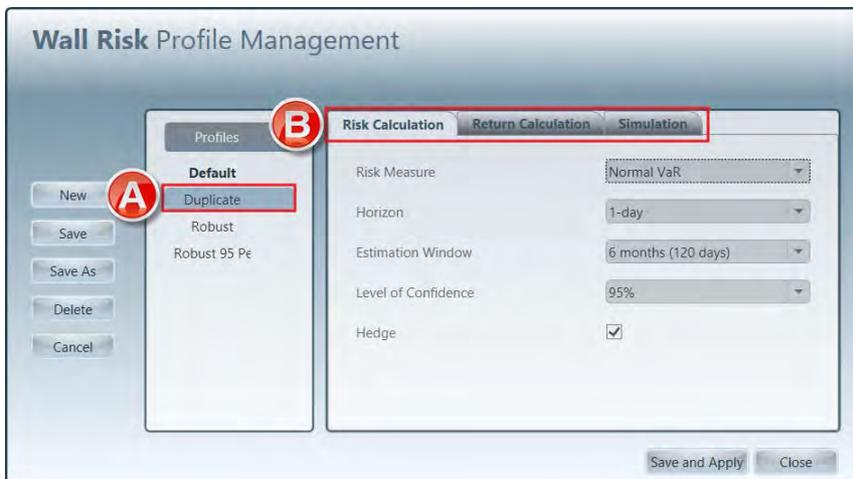


Figure 35: A) Duplicated profile is displayed. B) Edit parameters as necessary.

- 5) Edit the duplicated profile by choosing tabs and setting parameters for calculations, simulations, and optimization. For more information, please “Profile Descriptions” on page 20.

- 6) Click Close when you're done.

#### 4.5 Renaming a Profile

You can rename any profile except the Default profile.

- 1) Click the Profile Management icon(  ) on the right side panel. The Wall Risk Profile Management window displays.
- 2) Double click the name of the profile you want to rename. The Rename Profile window displays.
- 3) Enter the new profile name in the space provided. Click the Ok button.

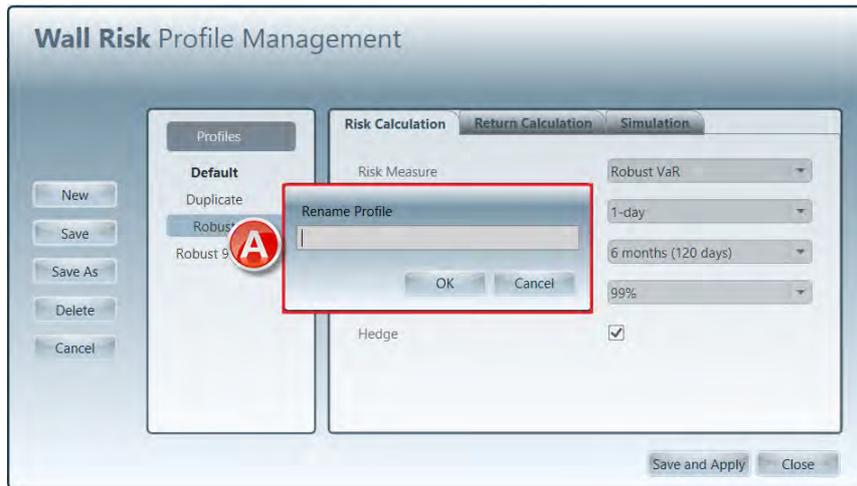


Figure 36: A) Rename a profile

- 4) Click Close when you're done.

#### 4.6 Deleting a Profile

You can delete any profile except for the Default profile.

- 1) Click the Profile Management icon(  ) on the right side panel. The Wall Risk Profile Management window displays.
- 2) Click the profile that you want to delete.
- 3) Click the Delete button.
- 4) Confirm that you want to delete the profile by clicking Yes in the message box.



Figure 37: A) Confirm that you want to delete the selected profile.

#### 4.7 Editing a Profile

You can edit the parameters of any profile except for the Default profile:

- 1) Click the Profile Management icon (  ) on the right side panel. The Wall Risk Profile Management window displays.
- 2) In the Wall Risk Profile Management window, select the profile you want to modify.

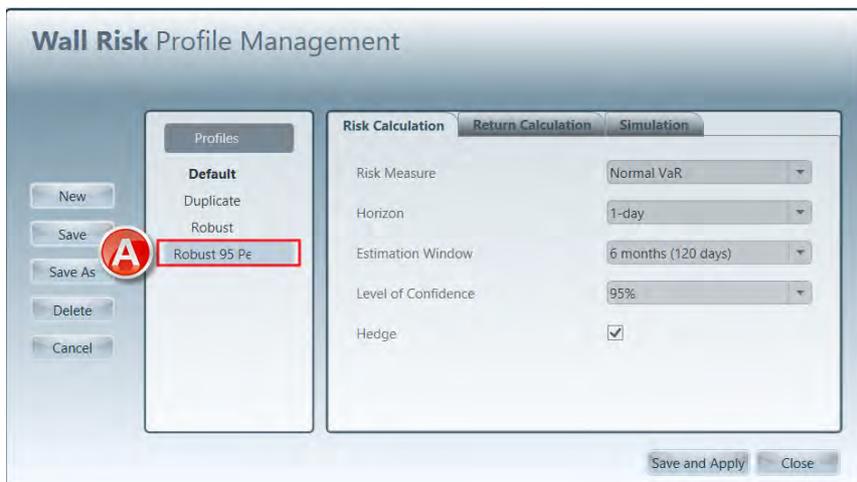


Figure 38: A) Choose the profile to update.

- 3) Update the parameters by choosing tabs and editing fields. For a description of each field please see "Profile Descriptions" on page 20.
- 4) Click the Save and Apply button to save the new parameters and apply the profile to your portfolios. Click the Save button to save the new parameters but not make the profile active.

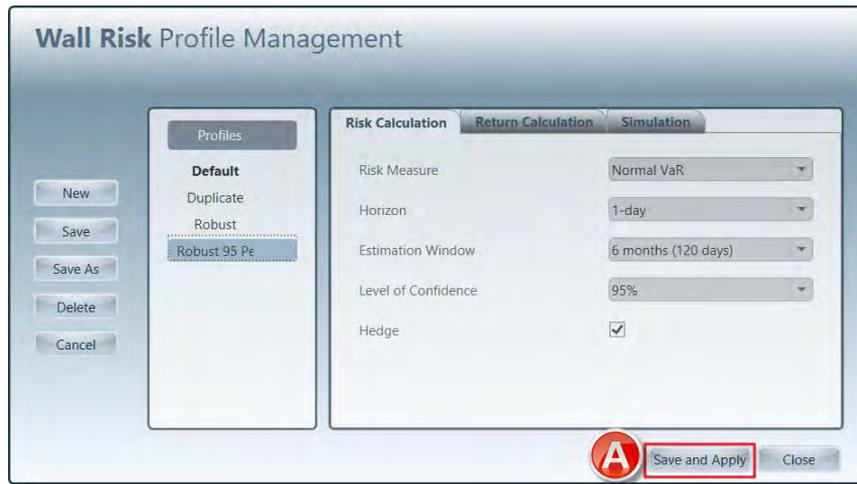


Figure 39: A) Click Save and Apply to use the edited profile as the active profile.

## 5 Managing your Strategies

Your active strategy determines how your portfolio is optimized when you click the Optimize button in the What If window. You can create, edit, and delete your strategies in the Strategies window.

Each portfolio has a default strategy and you can create up to 5 new strategies for each portfolio.

### 5.1 Defining the Active Strategy

You can change your active strategy from any window in the application.

- 1) Choose your active Strategy from the dropdown menu in the right side panel.
- 2) When you optimize your portfolio in the What If window, your portfolio is re-balanced according to the risk and allocation model and constraints of the selected active Strategy.



Figure 40: Choose a Strategy from the dropdown.

- 3) You can also navigate to the Strategies window and click the star in the active column to activate that strategy.

The blue star (★) indicates which strategy is active. Click a grey star (☆) to make that strategy active.



Figure 41: Active Strategy has a blue star.

### 5.2 Configuring Strategies

Strategies are made up of a risk model, an allocation model and constraints. Click a strategy in the top section to view its parameters in the Strategy Information panel.

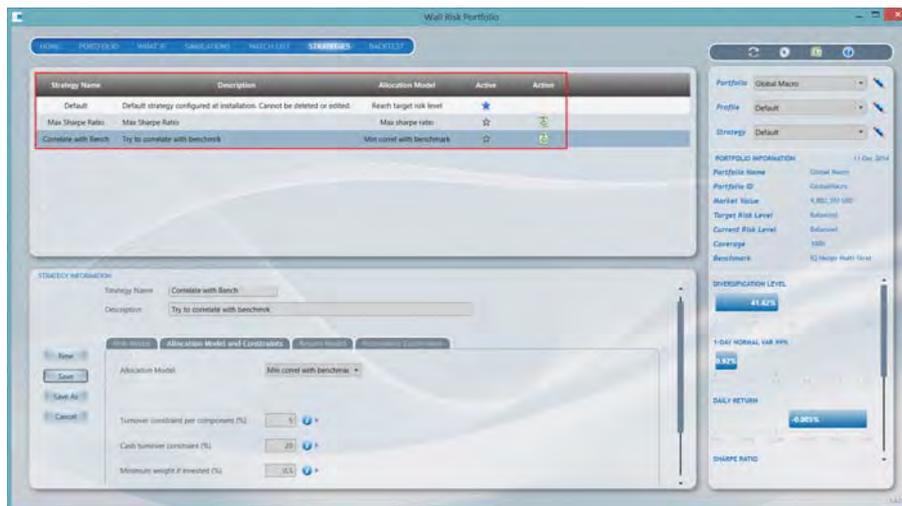


Figure 42: Strategies for the selected portfolio are displayed.

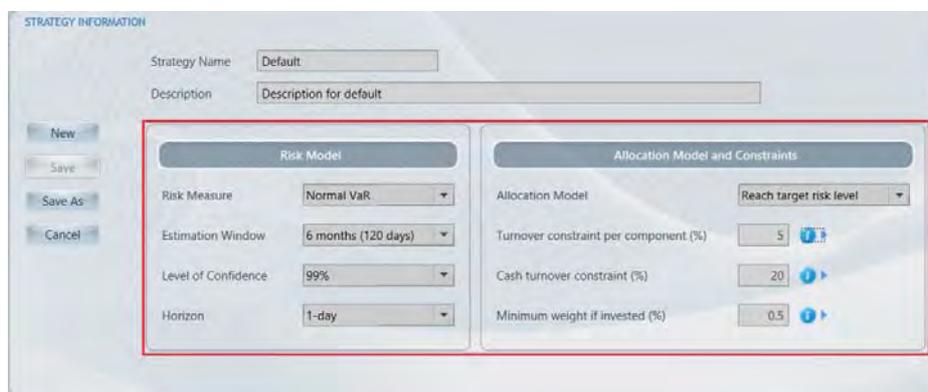


Figure 43: Strategy configuration is here.

The following sections displays field descriptions.

### 5.2.1 Allocation Models and Constraints

Wall Risk Portfolio provides 9 portfolio optimization and allocation models. Some models are benchmark strategies that do not employ optimization methods; those models are clearly marked in the description.

Allocation Model	Definition
Reach target risk level	Bringing the portfolio back to the target level defined by the user.
Same return, lower risk	“Going west” on the risk return chart.
Same risk, higher return	“Going north” on the risk return chart.

Wall Risk Portfolio allows you to define a simple set of constraints associated to the portfolio optimization model:

Field	Definition
-------	------------

Risk Measure	<p>If you selected Min risk as your allocation model you can set your Risk Measure. Select a risk measure from the dropdown.</p> <p>Choices include: Volatility, Tracking Error, Normal VaR, Expected Shortfall, Robust VaR, Kernel VaR, Kernel Expected Shortfall, and Correlation.</p> <p>Tracking Error is only available if you have a benchmark selected.</p>
Annualized Target(%)	<p>If you selected Min risk as your allocation model you can set your annualized target expressed as a percentage. Choose Over performance or Performance and choose a value.</p>
Min Duration Constraint	
Turnover constraint per component (%)	<p>Maximum change in the weight (absolute value) of each line in the portfolio.</p>
Cash turnover constraint (%)	<p>Maximum change in the weight (absolute value) of the cash position.</p>
Minimum trade size (%)	<p>Minimum change in the weight (absolute value) implied by any trade (in other word, if there is a trade on a line, it should involve a change in weight that is larger than this given percentage).</p>
Minimum investment (%)	<p>If a position is invested (a non-zero weight) then it should be larger than this minimum investment (in absolute value).</p>
Keep all positions	<p>If checked, all currently held instruments cannot be sold out totally.</p>

### 5.2.2 Risk Model

Field	Definition
Estimation Window	The amount of historical data, used to calibrate the risk model. You can choose 1 month (20 days), 3 months (60 days), 6 months (120 days), or 1 year (252 days).
Hedge	<p>If the hedge parameter is unchecked, then the FX risk is taken into account in the risk calculation. In other words: the market data used for the risk calculation is converted to the portfolio currency (historical prices, sensitivities).</p> <p>If checked: then we consider that the FX risk is hedged outside of this portfolio, so the FX risk is not taken into account in the portfolio risk calculation. In other words: the market data used for the risk calculation is NOT converted to the portfolio currency, but used instead in its original currency.</p>

### 5.2.3 Return Model

Field	Definition
Return Model	You can choose Historical Trend or User. If you select User then you are prompted to add a Views Horizon and to choose a file to be used for your return model. Click the Template button to open an Excel file with all your instruments in it. Enter the expected rate of return as a percent, such as 4,0 for a 4% expected annual return.
Estimation Window	The amount of historical data, used to calibrate the risk model. You can choose 1 month (20 days), 3 months (60 days), 6 months (120 days), or 1 year (252 days).

### 5.2.4 Instrument Constraints

You can set constraints for each instrument in the portfolio. Choose the Instruments Constraints tab and enter the Min Weight % and Max % constraint.



Figure 44: Set your instrument constraints

## 5.3 Creating New Strategies

Each portfolio has a default strategy and you can add up to 5 new strategies for each portfolio.

- 1) In the Home window, click the portfolio to which you want to add another strategy.

- In the Strategies window, click the New button. A new strategy is created.

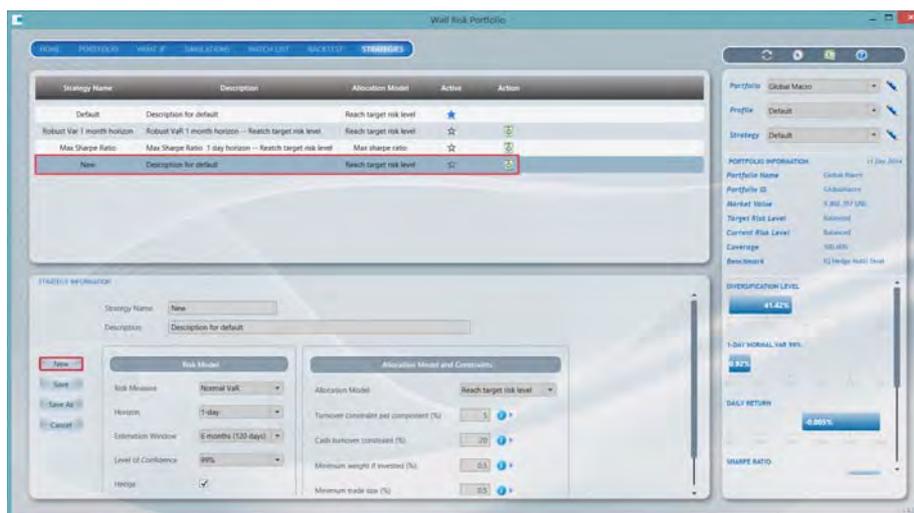


Figure 45: A) Click the New button. B) A new strategy is displayed.

- Enter a name in the Strategy Name field and add a description.
- Configure the parameters of the new strategy using the drop down boxes and fields in the Strategy Information panel. For details please see “Configuring Strategies” on page 29.

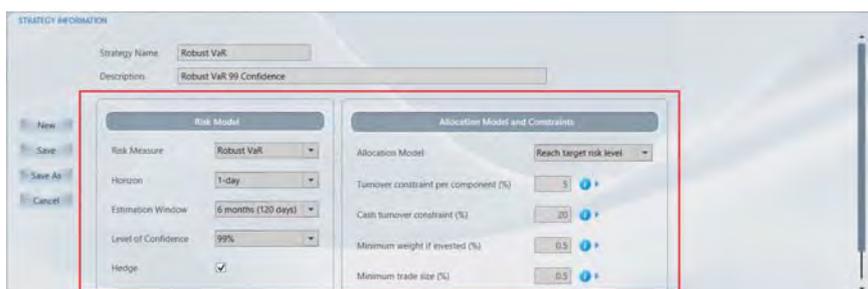


Figure 46: A) Configure the new strategy.

- Click the Save button. Make the new strategy active if you wish to optimize this portfolio in the What If window.

## 5.4 Duplicating a Strategy

You may want to duplicate a strategy in order to create a new strategy that is similar to an existing one.

- In the Strategies window, select the strategy that you want to duplicate.
- Click the Save As button and then enter the name of the new strategy in the Save New Strategy field.

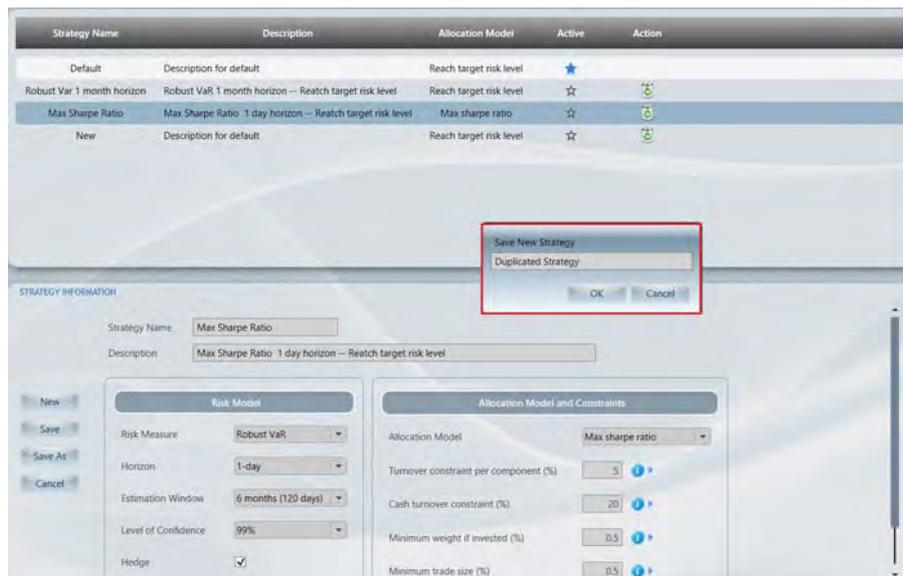


Figure 47: A) Name the strategy.

- 3) Make any changes you want to the strategy parameters in the Strategy Information panel.
- 4) Click Save when you're done.

## 5.5 Deleting a Strategy

- 1) In the Strategies window, click the Remove Strategy icon (🗑️) for the strategy you want to delete.
- 2) Confirm that you want to delete the strategy by clicking the Yes button. Click No if you don't want to delete the strategy.

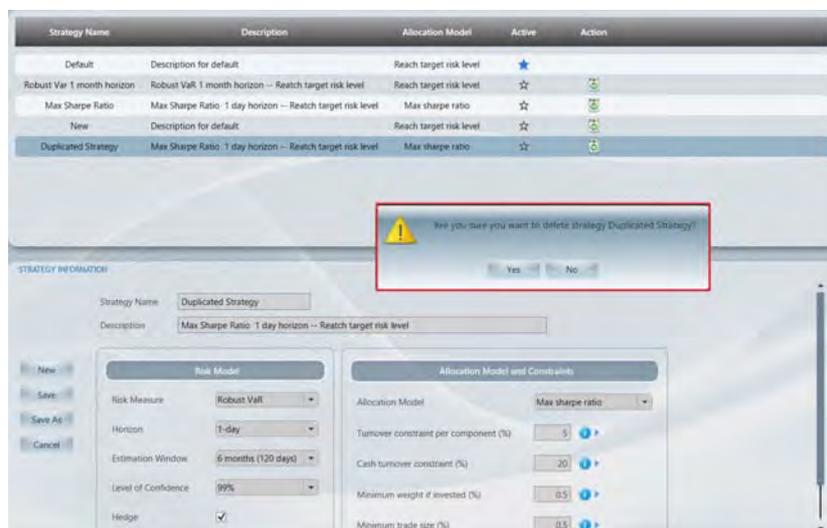
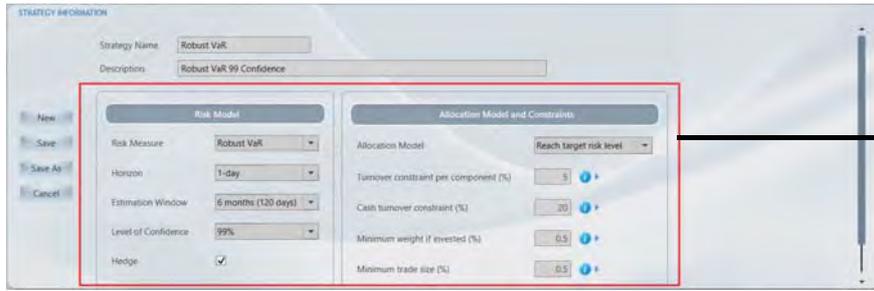


Figure 48: A) Click Yes to confirm the deletion of the strategy.

## 5.6 Editing a Strategy

You can edit any of the strategies you have created. You cannot edit the Default strategy. Your default strategy is configure at installation.

- 1) In the Strategies window, select the strategy that you want to edit.
- 2) Change the value of any parameter in the Strategy Information panel.



Edit the parameters of your strategy.

Figure 49: A) Edit the parameters of your strategy.

- 3) When you're done editing the strategy click the Save button.

## 6 Wall Risk Portfolio User Interface

### 6.1 The Home Window

The Home window is the initial screen that displays after launching the application. The screen shows your portfolios in a table with pertinent information, the risk return and exposures charts for each portfolio, and gauges and data for the selected portfolio.



Figure 50: The Home window displays all your portfolios and benchmarks.

#### 6.1.1 Portfolio Table with Alerts

Alerts display in the Alert column in the Portfolio table in the Home window. When the current risk profile of any of your portfolios does not meet the target risk profile then the alert changes to orange or red. Orange means that the current risk profile is below the target risk profile. Red means that the current risk profile is above the target risk profile.

Portfolio	Market Value	Target Risk Level	Currency	Current Risk Level	Benchmark	Alert	Action
Balanced Bench.	10,000,000	Balanced	EUR	Balanced		Green	
Euro Bonds Bench.	10,000,000	Conservative	EUR	Conservative		Green	
MSCI World	10,000,000	Dynamic	USD	Balanced		Green	
Equity portfolio	37,144,797	Balanced	USD	Aggressive	MSCI World	Red	
European Bonds	15,041,758	Conservative	EUR	Conservative	Euro Bonds Bench.	Green	
Funds Portfolio	472,898	Conservative	EUR	Dynamic	Balanced Bench.	Red	
Global Macro	9,802,357	Balanced	USD	Balanced	IQ Hedge Multi-Strat	Green	
IQ Hedge Multi-Strat	10,000,000	Balanced	USD	Conservative		Orange	

Figure 51: A) Alerts show suitability gap.

#### 6.1.2 Risk Return Chart

The Risk Return Profile and Portfolio Exposures graphics display information about the selected portfolio. The X and Y axis depend on the selected risk and return calculation parameters. For consistency purpose, only portfolios with the same profile as the current portfolio are displayed in the risk return chart.

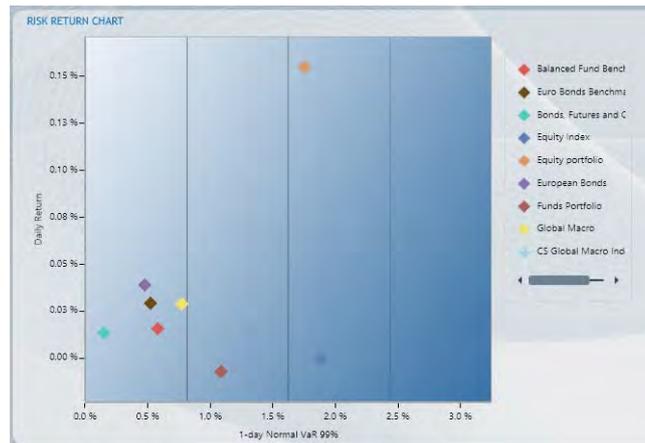


Figure 52: A) Expected return and risk measures are displayed for each portfolio.

### 6.1.3 Portfolio Exposures

This pie chart displays the main exposures in terms of absolute value of the weight in the portfolio. Only the 5 biggest weights as well as the cash position are specifically shown. The rest of the portfolio is gathered in “Others”.

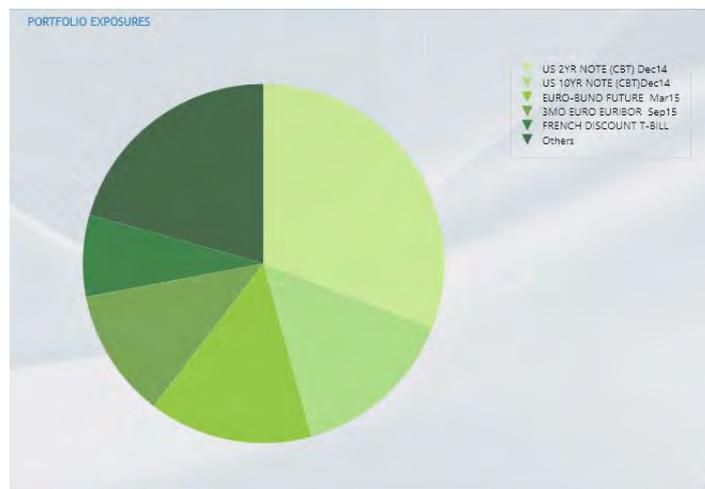


Figure 53: A) Exposures (absolute values of the weights) are displayed in a pie chart.

### 6.1.4 Portfolio, Profile, and Strategy Drop Downs

Configuration information is displayed in the top right corner of the Wall Risk Portfolio application. It is displayed in all windows of the application.

- **Portfolio:** View or choose the portfolio to work with in the Portfolio drop down box. Click the Open Portfolio file icon (📄) to open the portfolio csv file. For more information on configuring the .csv file please see “Configuring your Portfolios” on page 11. If you edit the file make sure you refresh the application by clicking the Refresh button (🔄).
- **Profile:** View or choose the profile that is used to makes calculations, runs simulations, and optimizes portfolios. Click the Profile Management icon (📄) to open the Wall Risk Profile Management window. To learn more about profile management please see “Configuring your Portfolios” on page 11.
- **Strategy:** View or choose the strategy that determines how Wall Risk Portfolio optimizes portfolios in the What If window. Click the Strategies Management icon (📄) to open the Strategies window. To learn more about configuring strategies, please see

“Configuring Strategies” on page 29.

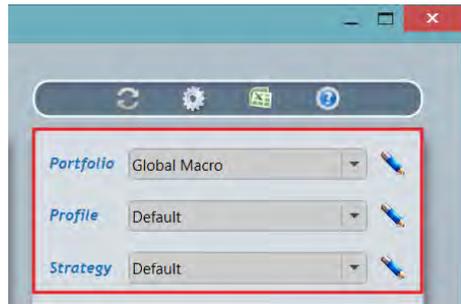


Figure 54: A) View global configuration values.

### 6.1.5 Portfolio Information

The Portfolio Information panel displays general information about the selected portfolio and the gauges that display the diversification and risk levels:

- Portfolio Name: name of the selected portfolio;
- Portfolio ID of the selected portfolio;
- Market Value (including the cash position) of the selected portfolio;
- Target risk level of the selected portfolio;
- Current risk level (deduced from the calculated risk measure) of the selected portfolio;
- Return measure of the selected portfolio;
- Coverage: percentage of the portfolio that is covered by the analysis after excluding the instruments with missing market data;
- Benchmark, if applicable.

### 6.1.6 Portfolio Gauges

The portfolio gauges display graphical ex-ante analytics about the selected portfolio.

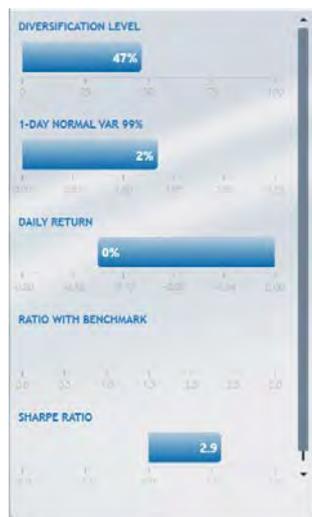


Figure 55: A) Portfolio gauges display information about the selected portfolio.

### 6.1.7 The New Button

Click the New button on the Home page to create a new portfolio. For more information please see “Creating a New Profile” on page 23.

## 6.2 The Portfolio Window

When you click the Portfolio link, information about the selected portfolio is displayed. The application displays the name and market information for each instrument.

### 6.2.1 Portfolio Sectors View

The Sectors view displays the sectors that are defined in your portfolio with aggregated analytics. By clicking the plus or minus buttons you can expand and retract the sectors to see the component instruments. The table shows more analytics for each instrument in the sector.

To view the instruments view click the Instruments View button.

	Market Value	Weight	Risk Contribution	Return Contribution																																	
+ Cash	0	0%																																			
+ Equity	6,295,907	64.23%	87.18%	-455.61%																																	
- <b>Commodities</b>	1,630,500	16.63%	15.06%	536.54%																																	
<table border="1"> <thead> <tr> <th>Name</th> <th>Position</th> <th>Last Quote</th> <th>Currency</th> <th>Market Value</th> <th>Instrument Volatility</th> <th>Instrument Return</th> <th>Weight</th> <th>Risk Contribution</th> <th>Return Contribution</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>SPDR GOLD SHARES</td> <td>10,000</td> <td>117.69</td> <td>USD</td> <td>1,176,900</td> <td>15.39%</td> <td>-0.059%</td> <td>12.01%</td> <td>7.62%</td> <td>137.72%</td> <td>✓</td> </tr> <tr> <td>UNITED STATES OIL FUND LP</td> <td>20,000</td> <td>22.68</td> <td>USD</td> <td>453,600</td> <td>24.25%</td> <td>-0.445%</td> <td>4.63%</td> <td>7.44%</td> <td>398.82%</td> <td>✓</td> </tr> </tbody> </table>					Name	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Status	SPDR GOLD SHARES	10,000	117.69	USD	1,176,900	15.39%	-0.059%	12.01%	7.62%	137.72%	✓	UNITED STATES OIL FUND LP	20,000	22.68	USD	453,600	24.25%	-0.445%	4.63%	7.44%	398.82%	✓
Name	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Status																											
SPDR GOLD SHARES	10,000	117.69	USD	1,176,900	15.39%	-0.059%	12.01%	7.62%	137.72%	✓																											
UNITED STATES OIL FUND LP	20,000	22.68	USD	453,600	24.25%	-0.445%	4.63%	7.44%	398.82%	✓																											
+ Fixed Income	1,467,400	14.97%	-1.36%	-86.81%																																	
+ FX	408,550	4.17%	-0.88%	105.88%																																	

Figure 56: Click the + button to expand the instruments in a sector.

### 6.2.2 Portfolio Instruments View

The Portfolio Instruments views table displays the following information about each instrument:

- **Name:** The name of the instrument.
- **Sector:** Sector of the instrument.
- **Position:** The number of shares held.
- **Last Quote:** The last market price for the instrument in its own currency.
- **Currency:** The currency of the instrument.
- **Market Value:** The total value of the instrument held in the portfolio in the portfolio currency.
- **Instrument volatility:** annualized volatility of the instrument.
- **Instrument return:** return of the instrument (depending on the selected parameters for the return model).
- **Weight:** The percentage contribution of the instrument in your portfolio.
- **Risk Contribution:** The contribution of the instrument to the portfolio's risk.
- **Return Contribution:** The contribution of the instrument to the portfolio's return.
- **Status:** A green checkmark(✓) is displayed for each ticker that is used for risk and performance calculations.

A red cross(✗) is displayed for tickers that are excluded from calculations. A ticker may be excluded if there is limited historical data for that ticker or if some required static information is missing for this instrument. You can mouse over the red cross to display information about the source of the problem.

You can set up a proxy for an instrument with insufficient historical data. After setting up a proxy the warning icon(🚩) will display indicating that the data of a proxy has replaced the historical data of the selected instrument.

Click the Sectors View button to switch to the Sector view of the portfolio.

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Included
Agnico Eagle Mines Ltd	Materials	289,851	33.87	USD	7,020,161	36.60%	0.23%	20.15%	10.92%	32.47%	✓
BELGADCOM	Telecommunication	292,761	27.35	EUR	8,005,550	15.84%	0.20%	22.96%	6.99%	30.11%	✓
BlackBerry Limited	Information Tech	75,054	11.01	USD	642,318	43.61%	0.22%	1.94%	-2.07%	2.59%	✓
Cash					0			0.00%			✓
CHINA RES GAS	Utilities	54,020	22.05	HKD	119,473	28.74%	-0.03%	0.34%	-0.02%	-0.07%	✓
CKI HOLDINGS	Utilities	2,944	55.5	HKD	18,388	15.32%	0.04%	0.09%	-0.01%	0.01%	✓
COLRUNT	Consumer Staple	29,647	36.17	EUR	1,072,332	12.99%	-0.09%	3.08%	0.34%	-1.88%	✓
Eldorado Gold Corp	Materials	197,442	7.5	USD	626,360	38.34%	0.38%	1.80%	4.06%	4.38%	✓
Franco-Nevada Corporation	Materials	137,228	52.67	USD	5,618,166	28.18%	0.21%	16.12%	28.41%	21.53%	✓
HAER ELEC	Consumer Discret	432,000	20.55	HKD	890,423	33.45%	0.06%	2.56%	0.51%	1.04%	✓
INVTACT FINANCIAL CORPO	Financials	47,321	72.05	CAD	2,404,727	14.31%	0.06%	6.90%	0.17%	2.56%	✓
Kinross Gold Corp.	Materials	69,574	3.88	USD	199,555	28.9%	-0.04%	0.37%	0.81%	-0.14%	✓
TELEKOM AUSTRIA AG	Telecommunication	173,812	7.14	EUR	1,240,496	14.54%	0.07%	3.56%	0.03%	0.76%	✓
TELEMT GROUP	Consumer Discret	222	43.66	EUR	9,493	20.26%	-0.01%	0.03%	0.00%	0.00%	✓

Figure 57: A) Click Sector View to switch views.

### 6.3 The What If Window

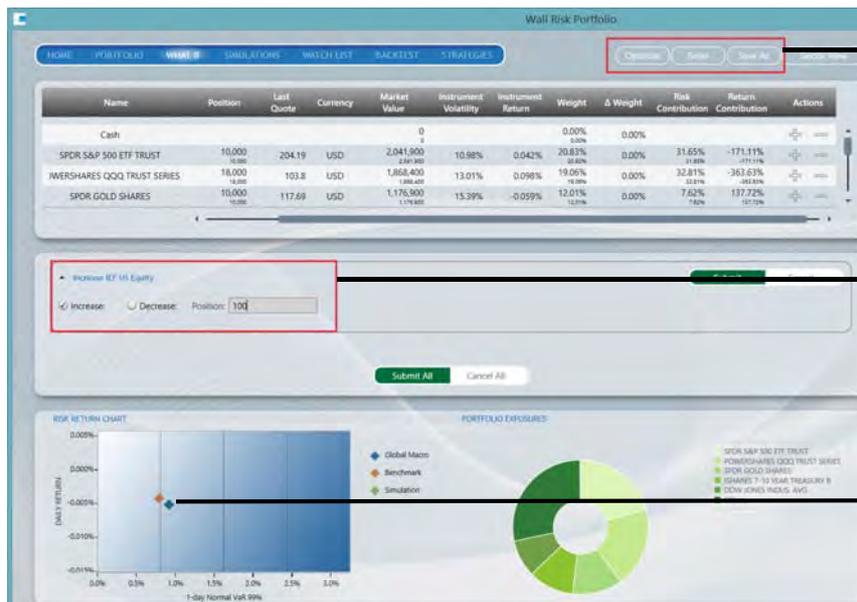
When you click the What If link, your selected portfolio opens in the in the What If window.



Figure 58: A) Your portfolio is displayed in the What If window.

From the Simulation window you can:

- Manually run simulations on your portfolio by clicking the plus and minus buttons to add or subtract shares from instruments in your portfolio;
- Automatically optimize your portfolio with tailored optimization model and constraints by clicking the Optimize button;
- Cancel your simulation and display your original portfolio by clicking the Reset button to;
- Save your simulation (up to 5 simulations per portfolio).



Action buttons to reset, optimize or save a simulation.

Comparison of your original portfolio your saved simulation and benchmark.

Figure 59: A) Action buttons to reset, optimize or save a simulation. B) Details of the simulated trade. C) Comparison of your original portfolio your saved simulation and benchmark.

## 6.4 The Simulations Window

The Simulations window displays the list of simulations associated to the current portfolio. Up to 5 simulations can be saved and compared for a given portfolio.

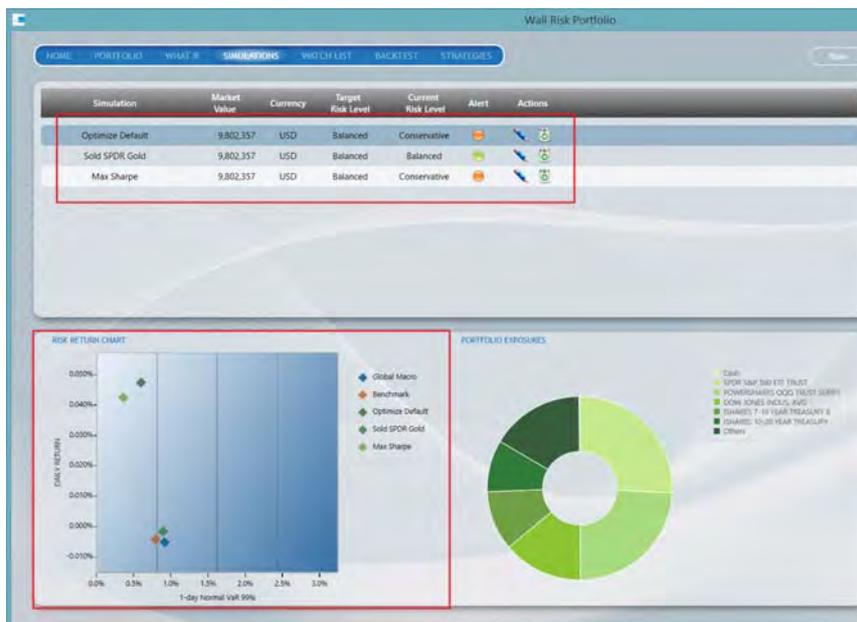


Figure 60: A) List of saved simulations for the selected portfolio. B) Comparison of the saved simulations, original portfolio and benchmark.

## 6.5 The Watch List Window

The Watch List window displays the instruments you have configured in your portfolio description file (with a zero position). To add an instrument from the watch list to the simulation, click on the Plus button. To remove it from the simulation, click on the Minus button.

Once added to the simulation, the instrument from the watch list becomes part of the investment universe. You can:

- Run simulated trades on this instrument;

- Optimize the portfolio with this new instrument.

Ticker	Name	Last Quote	Currency	Sector	Actions
THI CT Equity	THE HORTONS INC	62.69	CAD	Inter. Discrpt	
AUY US Equity	XAMANA GOLD INC	5.53	USD	Materials	
SPIN VX Equity	SWISS PRIME SITE-REG	59.18	CHF	Financial	
SCMW VX Equity	SWISSCOM AG-REG	484.33	CHF	telecommunication	
BARY SW Equity	BARRY CALLEBAUT AG-REG	899.41	CHF	consumer Stap	
LSN SW Equity	COOLADEFABRIKEN LINDT-I	47.386.01	CHF	consumer Stap	
EMDA SW Equity	IS-CHEMIE HOLDING AG-BI	339.65	CHF	Materials	

Figure 61: A) Watch list associated to the selected portfolio.

## 6.6 The Backtest Window

The Backtest window displays all the tools you need to run a portfolio backtest and view its results. In a portfolio backtest the contents of the portfolio remain the same over a period of time that you choose.

The backtest parameters fields allows you to enter a backtest period, whether user defined or based on a specified historical time period and the computation frequency, either Daily, Weekly, or Monthly. You can also choose the portfolios that you want to compare. You can choose your portfolio, your benchmark and up to 3 what if simulations.

The snapshot data table allows you to compare backtest data between the selected portfolios for a specific date.

The backtest charts displays interactive charts for the portfolio backtest. You can choose the type of data to view by clicking any of the analytics buttons.

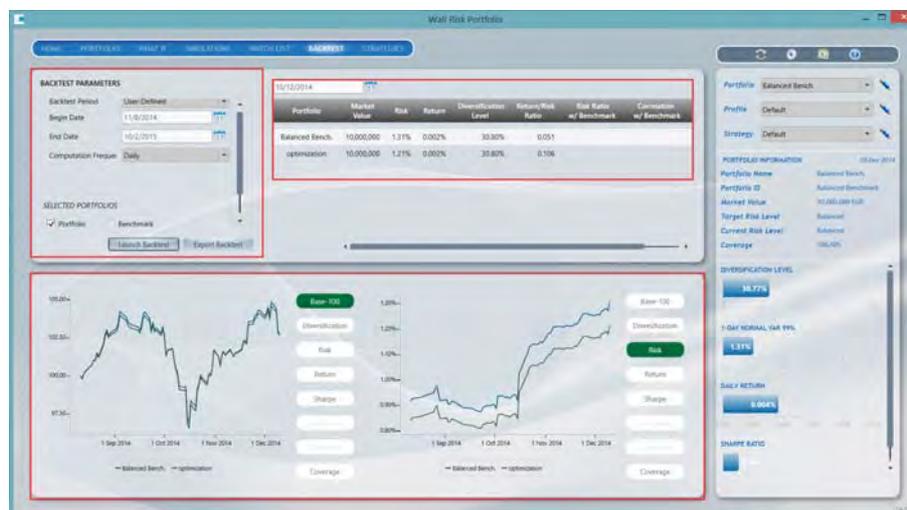


Figure 62: A) Backtest parameters. B) Snapshot data table. C) Backtest charts.

The next sections will explain the parameters and fields in more detail.

### 6.6.1 Backtest Parameters

Set the backtest period with the dropdown box. You can choose a specific historical period, such as '97 Asian crisis, 2008 subprime crisis, or past 2 years. The begin date and end date are automatically populated based on your selection.

You can also choose User-Defined from the dropdown box and then enter your own end date and begin date.

Computation frequency can be set to Daily, Weekly, or Monthly.

Check the portfolios that you want to backtest from the Selected Portfolio list.

Click the Launch Backtest button to launch the backtest. Results are displayed in the Snapshot Data table and in the charts.

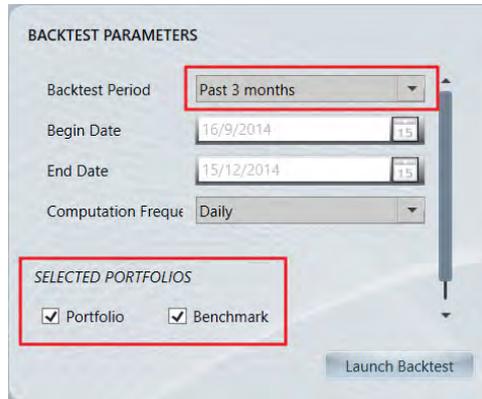


Figure 63: A) You can choose a backtest period from the dropdown. B) Chose backtest portfolios.

### 6.6.2 Snapshot Data Table

The snapshot data table populates with analytic data for the selected portfolios on a specific date. The default date is the most recent historical date used for calculations.

Use the calendar widget to choose a date. Please note that based on the Computation Frequency selected only certain dates can be selected.



Figure 64: A) Choose a date from the calendar widget. B) Analytics are displayed in the table for the time period.

### 6.6.3 Backtest Charts

The backtest charts display the results of your portfolio backtest. You can choose 2 analytics to compare.

Click an analytics button to see that chart.

You can mouse over a chart to see the values at specific days.



Figure 65: A) Click a button to view that type of analytics.

### 6.7 The Strategies Window

Strategies determine how your portfolio is optimized when you click the Optimize button in the What If window.

In the Strategy window you can view and edit the parameters of your existing strategies, create and configure new strategies, and delete strategies.

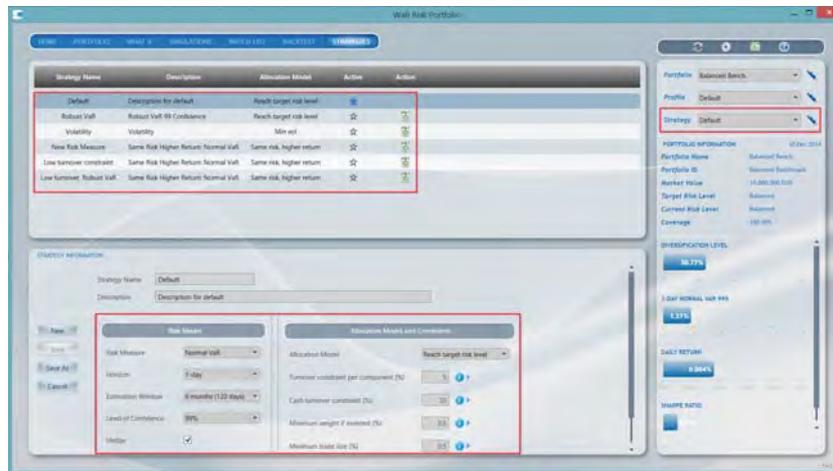


Figure 66: A) Strategies are displayed here. B) The active strategy is displayed here. C) Configure parameters in the Strategy Information panel.

### 6.8 Utility Menu

The Utility menu on the top right corner of the application allows you to:

- Refresh the application: this will reload up-to-date market data and portfolio information. Use this button when:
  - o You want to update market information (last prices);
  - o You have modified one of your portfolio description files;
  - o You have added or removed a portfolio.
- Edit the application settings to configure
  - o Data Providers;
  - o Portfolio Providers;
  - o Proxy file location;
  - o Offline mode.
- Export the portfolio analysis and simulation to Excel: all the analytics displayed in the application are exported for all your portfolios. Two tabs in the Excel file are created for

each portfolio that you monitor. One tab displays information on the original portfolio and the other tab displays information on the simulated portfolio.

- The report contains the description of the portfolio, portfolio analysis, and components analysis.
- Access the user guide and the Analytics Documentation.

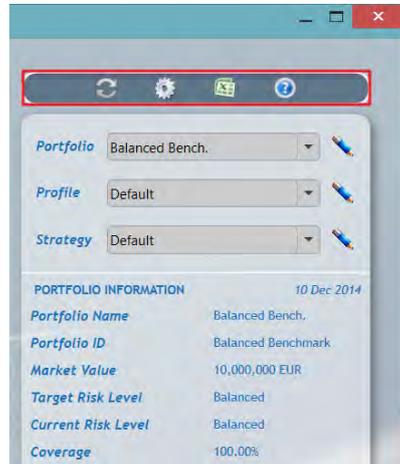


Figure 67: A) Access other features from the utility bar.

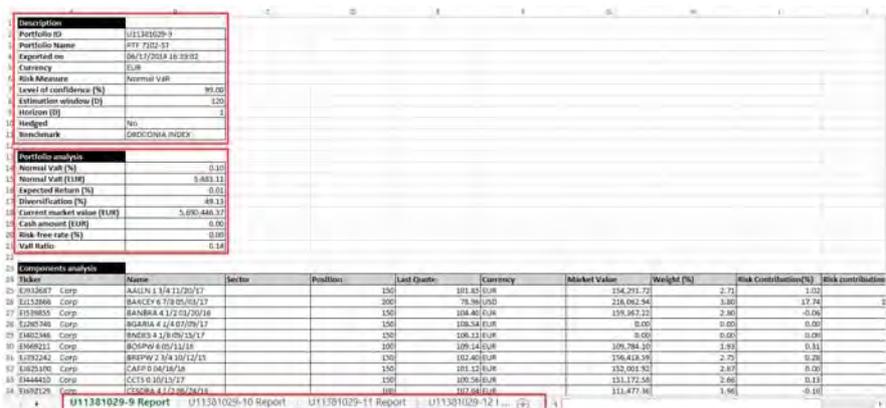


Figure 68: A) Report displays risk calculation parameters. B) Report displays portfolio analysis. C) Portfolio name matches the tab names.

## 6.9 Keyboard Shortcuts

- |   |  |
|---|--|
| <Esc>   | Close Application Settings window.                     |
| Escape for closing Profile management         | Close Profile Management window.                       |
| <Enter> after entering a new simulation name. | Save As for a new simulation in the What If window     |
| <Esc>   | Cancel Save As a new simulation in the What If window. |
| <Enter>                                       | For OK in notification window.                         |
| <Esc>   | For Cancel in notification window.                     |

## 7 How to Guides

### 7.1 Creating a New Portfolio

Although you may have created and configured your portfolios during your initial setup, you may create new portfolios from the Home page.

After creating the new portfolio you must click the Refresh button in the application to see your new portfolio.

- 1) In the Home page click the new button.

Portfolio	Market Value	Currency	Benchmark	Target Risk Level	Current Risk Level	Alert	Diversification Level	Risk	Return	Sharpe Ratio	Coverage	Status	Action
Balanced Bench.	10,000,000	EUR		Balanced	Balanced	●	30.77%	1.31%	0.004%	0.104	100%	✓	
Euro Bonds Bench.	10,000,000	EUR		Conservative	Conservative	●	0%	0.49%	0.023%	1.711	100%	✓	
MSCI World	10,000,000	USD		Dynamic	Balanced	●	0%	1.31%	-0.019%	-0.533	100%	✓	
Equity portfolio	37,144,797	USD	MSCI World	Balanced	Aggressive	●	47.18%	2.59%	0.041%	0.575	100%	✓	
European Bonds	15,041,750	EUR	Euro Bonds Bench.	Conservative	Conservative	●	15.8%	0.54%	0.042%	2.869	100%	✓	
Funds Portfolio	472,898	EUR	Balanced Bench.	Conservative	Dynamic	●	35.3%	1.75%	0.007%	0.142	95.92%	●	
Global Macro	9,802,357	USD	IQ Hedge Multi-Strat	Balanced	Balanced	●	41.42%	0.92%	-0.005%	-0.207	100%	✓	
IQ Hedge Multi-Strat	10,000,000	USD		Balanced	Conservative	●	0%	0.79%	-0.004%	-0.196	100%	✓	

Figure 69: A) Click the New button.

- 2) Fill in the Create New Portfolio window with information about the new portfolio.

### Create New Portfolio

Portfolio ID:

Portfolio Source:

Portfolio Name:

Portfolio Currency:

Target Risk Level:

Benchmark:

Amount Type:

Amount Value:

Risk-free Rate:

Position Type:

Figure 70: A) Elements to configure your new portfolio.

- Portfolio ID: The name of the file.
- Portfolio Source: Provider of the portfolio such as Equalizer, Olympic PRTU or User.
- Portfolio Name: Name as displayed in the application. If empty, it is set to Portfolio ID.
- Portfolio Currency: Base currency of the portfolio.
- Target Risk Level: Risk class based on annualized volatility. Defined at installation.
- Benchmark: Portfolio or index used as a portfolio benchmark; used to estimate relative

risk and return and run benchmarked optimization. You can choose an existing portfolio from the drop down.

- Amount Type: Cash or Total. Cash is cash position in portfolio currency. Total means Amount Value field is the total value of the portfolio and cash position is deduced from this amount when market values of positions are subtracted.
- Amount Value: Total value of the portfolio. Use when Amount Type is set to Total.
- Risk-free Rate: Annualized risk-free rate of the cash position. Enter 0.3 for 0.3%
- Position Type: Shares or weight.

3) Click the Create button.

4) The portfolio CSV files opens. Click Ok in the message box to edit the file.

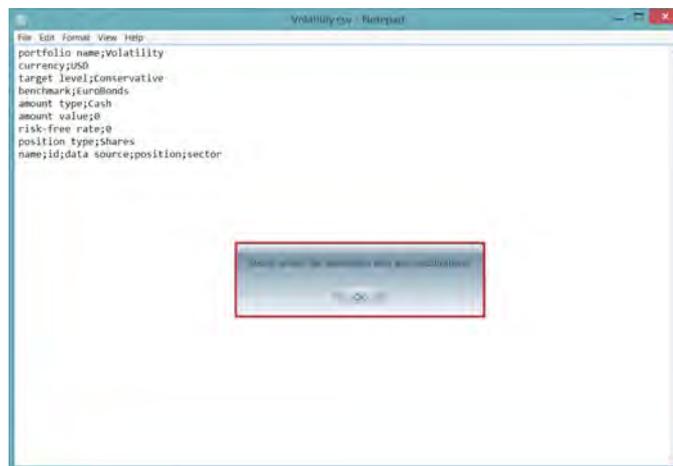


Figure 71: A) Click Ok.

5) For each instrument in the new portfolio enter the name, id, data source, position and sector separated by semi-colons. Your file will look something like the following:

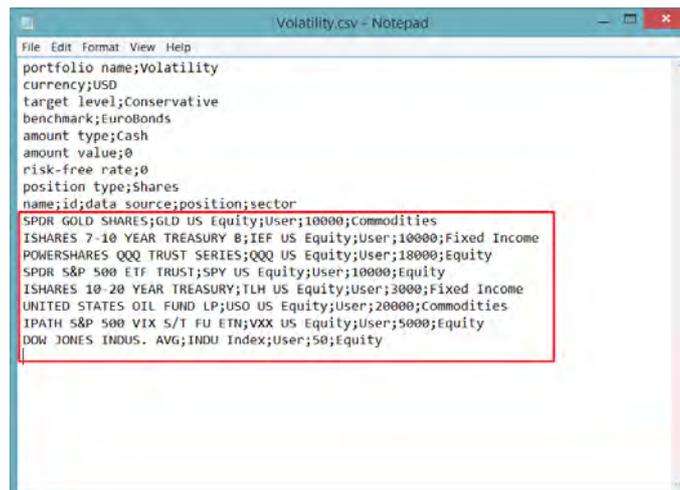


Figure 72: A) Add instruments and data to the .csv file.

6) When you're done editing the new portfolio file save it.

7) In the application, click the Refresh button (🔄). Wall Risk Portfolio refreshes and your new portfolio is displayed.

Portfolio	Market Value	Currency	Benchmark	Target Risk Level	Current Risk Level	Alert	Diversification Level	Risk	Return	Sharpe Ratio	Coverage	Status	Action
Equity portfolio	27,144,797	USD	MSCI World	Balanced	Aggressive	Red	47.18%	2.59%	0.041%	0.575	100%	Green	
Euro Bonds Bench.	10,000,000	EUR		Conservative	Conservative	Green	0%	0.49%	0.023%	1.711	100%	Green	
European Bonds	15,041,758	EUR	Euro Bonds Bench.	Conservative	Conservative	Green	15.8%	0.54%	0.042%	2.869	100%	Green	
Funds Portfolio	472,898	EUR	Balanced Bench.	Conservative	Dynamic	Red	35.3%	1.75%	0.007%	0.142	95.92%	Yellow	
Global Macro	9,802,357	USD	IQ Hedge Multi-Strat	Balanced	Balanced	Green	41.42%	0.82%	-0.095%	-0.207	100%	Green	
IQ Hedge Multi-Strat	10,000,000	USD		Balanced	Conservative	Orange	0%	0.79%	-0.094%	-0.196	100%	Green	
MSCI World	10,000,000	USD		Dynamic	Balanced	Orange	0%	1.31%	-0.019%	-0.533	100%	Green	
Volatility	8,635,457	USD	IQ Hedge Multi-Strat	Balanced	Balanced	Green	38.69%	1.01%	0.002%	0.081	100%	Green	

Figure 73: A) New portfolio is displayed

## 7.2 Monitoring your Portfolios

You'll get color-coded alerts when portfolios do not meet their target profiles. A portfolio can be classified as "Within target", "Above Target", or "Below Target".

The risk levels defined in Wall Risk Portfolio are based on annualized volatility intervals that can be configured when installing the application. You can configure 2 to 8 risk profiles with custom risk intervals and risk profile names to meet your needs.

- 1) Launch Wall Risk Portfolio and navigate to the Home view.
- 2) The alert column displays the alert level of each portfolio. There are three alert levels:
  - Green alert(🟢): Current risk profile is at the target risk profile.
  - Orange alert(🟡): Current risk profile is below the target risk profile.
  - Red alert(🔴): Current risk profile is above the target risk profile.
- 3) Click the Action button(🔍) to see detailed information about a given portfolio. You can identify sources of risk and return by following the steps in the next section.

Portfolio	Market Value	Currency	Target Risk Level	Current Risk Level	Parameters Profile	Benchmark	Alert	Actions
Balanced Bench.	10,000,000	EUR	Balanced	Conservative	Default		🟡	🔍 📄 📊
Euro Bonds Bench.	10,000,000	EUR	Conservative	Conservative	Default		🟢	🔍 📄 📊
Multi asset class	39,148,840	EUR	Balanced	Conservative	Default		🟡	🔍 📄 📊
MSCI World	10,000,000	USD	Dynamic	Balanced	Default		🟡	🔍 📄 📊
Equity portfolio	44,390,869	USD	Balanced	Dynamic	Default	MSCI World	🔴	🔍 📄 📊
European Bonds	148,586,511	EUR	Conservative	Conservative	Default	Euro Bonds Bench.	🟢	🔍 📄 📊
Funds Portfolio	470,665	EUR	Conservative	Balanced	Default	Balanced Bench.	🔴	🔍 📄 📊

Figure 74: A) Alerts are displayed for each portfolio. B) Click the Action button to see detailed information.

## 7.3 Identifying Sources of Risk and Performance in your Portfolio

Sort the Risk Contribution and Return Contribution columns in the Portfolio view to identify sources of risk and performance.

- 1) In the Home view, choose a portfolio and click the Portfolio link. You can also click the action button for a portfolio(🔍).
- 2) The Portfolio view displays the instruments held by that portfolio and associated data.
- 3) Click any column heading to sort by that column. For example, to see the instruments that contribute the most to performance, click the Return Contribution column header. Click it again to re-sort to see the lowest contributors to performance.

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Included
BEIGACOM SA	Telecomms	292,761	27.54	EUR	10,419,347	15.35%	0.22%	23.47%	7.27%	36.24%	✓
AONICO EAGLE MINES LTD	Materials	296,651	32.48	USD	8,660,824	37.14%	0.20%	19.51%	50.11%	27.76%	✓
FRANCO-NEVADA CORP	Materials	137,228	51.7	USD	7,094,688	28.32%	0.18%	15.98%	28.42%	20.64%	✓
UCR SA	Health Care	39,097	68.66	EUR	3,468,050	19.00%	0.12%	7.81%	1.64%	8.70%	✓
ELDORADO GOLD CORP	Materials	107,442	7.26	USD	780,029	38.49%	0.32%	1.76%	4.02%	4.02%	✓
BLACKBERRY LTD	Information	75,054	18.79	USD	806,831	43.56%	-0.22%	1.62%	2.13%	2.86%	✓
INTACT FINANCIAL CORP	Financials	47,221	72.1	CAD	3,113,197	14.31%	0.06%	7.01%	0.20%	1.77%	✓
HAIER ELECTRONICS GROUP CO	Consumer	432,000	20.65	HKD	1,150,962	32.32%	0.07%	2.59%	0.66%	1.25%	✓
TELEKOM AUSTRIA AG	Telecomms	173,812	7.15	EUR	1,604,890	14.52%	0.04%	3.62%	0.06%	0.95%	✓
CHEUNG KONG INFRASTRUCTURE	Utilities	2,944	55.25	HKD	20,980	15.59%	0.05%	0.05%	-0.01%	0.02%	✓
TELENT GROUP NV	Consumer	222	44.6	EUR	12,795	20.80%	0.01%	0.03%	0.00%	0.00%	✓

Figure 75: A) Click a column heading to sort by that column.

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Included
Cash					0			0.00%			✓
COURRYT SA	Consumer	29,647	36.41	EUR	1,394,970	13.04%	-0.09%	8.14%	0.31%	-2.01%	✓
ULTRAFAR PARTICIPACOES SA	Energy	216,100	54	BRL	4,933,822	21.21%	-0.01%	11.11%	4.74%	-0.54%	✓
VERBUND AG	Utilities	26,648	35.16	EUR	321,896	16.77%	-0.04%	1.88%	0.24%	-0.32%	✓
KINROSS GOLD CORP	Materials	69,574	3.64	USD	253,249	26.83%	-0.07%	0.57%	0.81%	-0.29%	✓
CHINA RESOURCES GAS GROUP LT	Utilities	54,020	22	HKD	153,333	28.52%	-0.02%	0.35%	-0.01%	-0.05%	✓
TELENET GROUP HOLDING NV	Consumer	222	44.6	EUR	12,795	20.80%	0.01%	0.03%	0.00%	0.00%	✓
CHEUNG KONG INFRASTRUCTURE	Utilities	2,944	55.25	HKD	20,980	15.59%	0.05%	0.05%	-0.01%	0.02%	✓
TELEKOM AUSTRIA AG	Telecomms	173,812	7.15	EUR	1,604,890	14.52%	0.04%	3.62%	0.06%	0.95%	✓
HAIER ELECTRONICS GROUP CO	Consumer	432,000	20.65	HKD	1,150,962	32.32%	0.07%	2.59%	0.66%	1.25%	✓
INTACT FINANCIAL CORP	Financials	47,221	72.1	CAD	3,113,197	14.31%	0.06%	7.01%	0.20%	1.77%	✓

Figure 76: A) Click again to reverse the sort.

### 7.4 Running What-if Trade Simulations

- 1) In the Home view select the Portfolio you want to run what if trade simulations.
- 2) Click the What If link to display the instruments in your portfolio.
- 3) Click the Plus or Minus action button to open the trade simulation section. If you click the Plus button the simulation section defaults to increasing your position. If you click the Minus button, it defaults to decreasing your position.

You can click multiple Plus or Minus buttons execute more than one trade in a simulation.

Also a mouse hover over displays tells you the name of the instrument and whether it is a buy or sell.

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Actions
Cash					0			0.00%			+
BEIGACOM SA	Telecomms	292,761	27.54	EUR	10,419,347	15.35%	0.22%	23.47%	7.27%	36.24%	+
O EAGLE MINES	Materials	296,651	32.48	USD	8,660,824	37.14%	0.20%	19.51%	50.11%	27.76%	+
CO-NEVADA CO	Materials	137,228	51.7	USD	7,094,688	28.32%	0.18%	15.98%	28.42%	20.64%	+
FR PARTICIPACO	Energy	216,100	54	BRL	4,933,822	21.21%	-0.01%	11.11%	4.74%	-0.54%	+
UCR SA	Health Care	39,097	68.66	EUR	3,468,050	19.00%	0.12%	7.81%	1.64%	8.70%	+
INT FINANCIAL CO	Financials	47,221	72.1	CAD	3,113,197	14.31%	0.06%	7.01%	0.20%	1.77%	+

Figure 77: A) Click an action button to start a what if trade simulation.

- 4) Enter the number of shares to buy or sell for the selected instrument. Select Increase to buy or Decrease to sell.

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Actions
Cash					0			0.00%			+
BEIGACOM SA	Telecomms	292,761	27.54	EUR	10,419,347	15.35%	0.22%	23.47%	7.27%	36.24%	+
O EAGLE MINES	Materials	296,651	32.48	USD	8,660,824	37.14%	0.20%	19.51%	50.11%	27.76%	+
CO-NEVADA CO	Materials	137,228	51.7	USD	7,094,688	28.32%	0.18%	15.98%	28.42%	20.64%	+

Increase  Decrease  Position

Figure 78: A) Enter the number of shares to buy or sell.

- 5) Click the Submit All button to validate all the orders, or the Submit button to validate the orders individually.



Figure 79: A) Click Submit all to validate your orders.

- 6) Save your simulation by clicking on the Save button.



Figure 80: A) Click the Save button.

- 7) You can see how your simulation compares to the original portfolio in the Risk Return Chart.

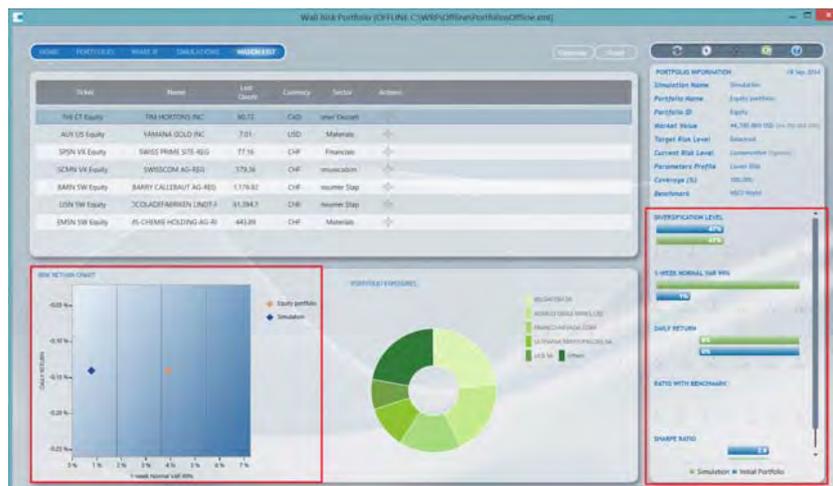


Figure 81: A) Compare your simulation to your original portfolio in the Risk Return chart. B) Gauges show comparison between the initial portfolio and the simulation.

- 8) For a more detailed comparative analysis, compare the analytics of the simulated portfolio with the original values (in brackets and grey font below the new values).

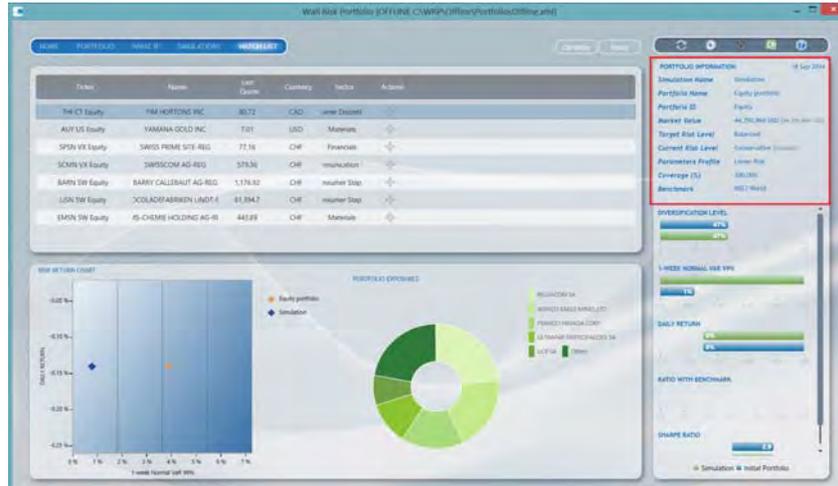


Figure 82: A) Analytics of the original portfolio in brackets and colored grey.

### 7.5 Bringing Your Portfolio in Line with its Target Risk Level

- 1) Choose the portfolio that you want to bring in line with its target risk level. You can choose the portfolio from the Home window or choose the portfolio from the Portfolio drop down.
- 2) Navigate to the Strategies window. You can click Strategies on the navigation ribbon or you can click the Strategies Management icon (🔧).

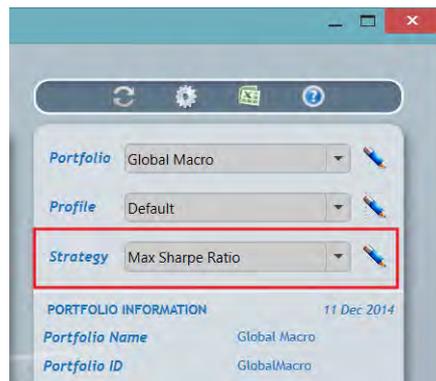


Figure 83: A) Click the Strategies Management icon to open the Strategies window.

- 3) Choose a strategy with an allocation model set to Reach target risk level. You can choose a strategy by clicking the star in the Active column. A blue star icon (★) indicates that the strategy is active.

Strategy Name	Description	Allocation Model	Active	Action
Default	Description for default	Reach target risk level	☆	
Robust VaR 1 month horizon	Robust VaR 1 month horizon -- Reach target risk level	Reach target risk level	☆	
Max Sharpe Ratio	Max Sharpe Ratio 1 day horizon -- Reach target risk level	Max sharpe ratio	☆	
New	Description for default	Reach target risk level	★	
Duplicated Strategy	Max Sharpe Ratio 1 day horizon -- Reach target risk level	Max sharpe ratio	☆	

Figure 84: A) Choose a strategy with an allocation model set to Reach Target Risk Level.

- 4) If you need to create a new strategy to meet your requirements please see “Creating New Strategies” on page 32.
- 5) You can set constraints for each instrument in the portfolio. Choose the Instruments

Constraints tab and enter the Min Weight% and Max Weight% constraint.

Name	Weight (%)	Min Weight (%)	Max Weight (%)
EEM US Equity	3.98	0	100
EWJ US Equity	5.85	0	100
FEZ US Equity	3.89	0	100
FXV US Equity	4.17	0	100
GLD US Equity	12.01	0	100
IEF US Equity	10.83	0	100
QQQ US Equity	19.06	0	100
SPY US Equity	20.83	0	100
TLH US Equity	4.14	0	100

Figure 85: A) Enter instrument constraints.

- 6) Click the What If link to access the What If window.

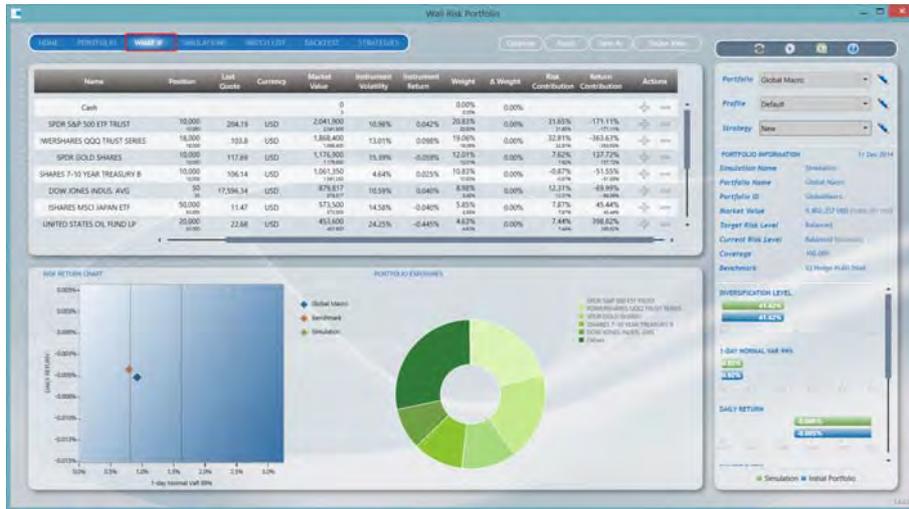


Figure 86: A) Click the What if link

- 7) Click the Optimize button to bring the portfolio back to its target risk level. The instrument colors change depending on how the portfolio is optimized. Green means that the position has increased, red means the position has been reduced. Original position is displayed in a smaller font and underneath the optimized values.

The Position and Weight columns displays how much those values have changed for the simulation.



Figure 87: A) Portfolio is brought closer to target risk levels.

- 8) Compare the original portfolio with the optimal portfolio on the Risk Return Chart and check the status of the alert icon. The target risk level might not be reached because of the constraints or the characteristics of the portfolio components, but it will at least make a step towards the target risk profile.

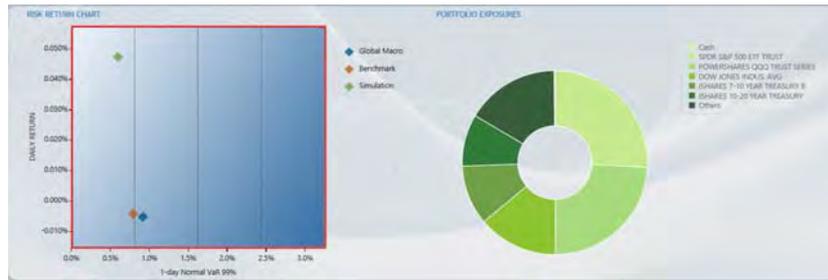


Figure 88: A) Compare the original portfolio and the optimization in the Risk Return chart.

## 7.6 Enhancing the Risk Return Profile of Your Portfolio with Optimization

Portfolio optimization is based on the active strategy that you have selected. You can create and configure up to 5 strategies plus the default strategy for each of your portfolios. A strategy consists of the risk model the allocation model, and turnover constraints.

For information on managing and configuring your strategies, please see “Managing your Strategies” on page 29.

- 1) In the Home window choose the portfolio that you want to optimize.

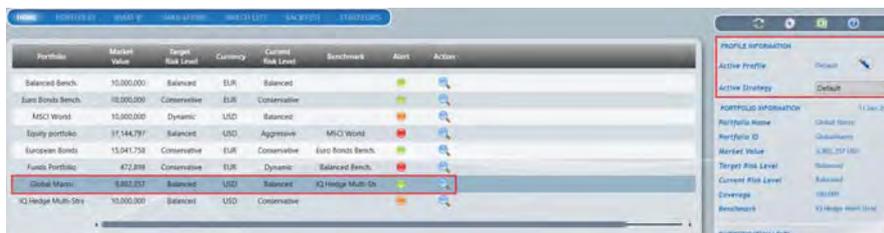


Figure 89: A) Notice which active profile and strategy are selected. B) Choose the Portfolio that you want to optimize.

- 2) You can select a different active strategy by choosing from the drop down box.
- 3) Optionally, you can navigate to the Strategies window to view the parameters of the portfolio's strategies and also activate a new strategy.

Click a strategy in the top panel to view its parameters in the bottom panel.

You can change the value of any parameter. Click the Save button to save the strategy once you've updated the parameters.

The blue star (★) indicates which strategy is active. Click a grey star (☆) to make that strategy active.

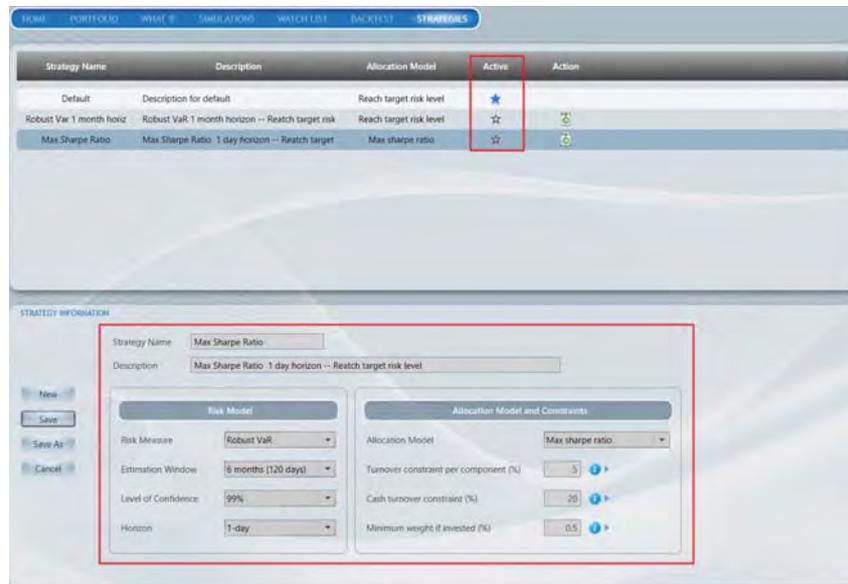


Figure 90: A) Blue star indicates the active strategy. B) View or edit strategy parameters.

- 4) In the What If view, click the Optimize button in order to enhance the risk/return ratio according the parameters configured in your active strategy.

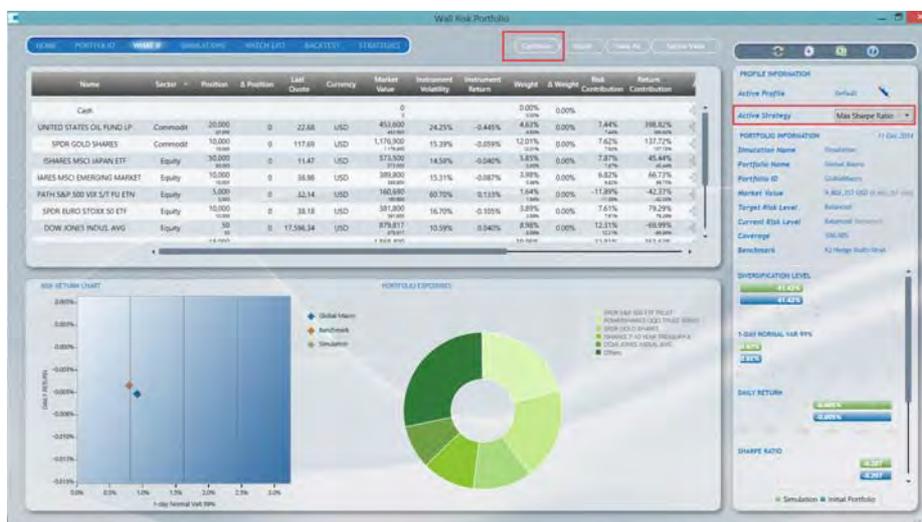


Figure 91: A) Click Optimize. B) Optimize according to active strategy.

- 5) Compare the original portfolio with the optimized portfolio.

The instruments table displays the optimized portfolio. The smaller numbers in the table are the original values. The larger numbers are the optimized values. Instruments colored red are sells. Instruments colored green are buys. The  $\Delta$  position and  $\Delta$  weight shows the changes in value for each column. You can sort a column by clicking on the column heading.

Name	Sector	Position	Δ Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Δ Weight	Risk Contribution	Return Contribution
Cash						-1,962,993			-20.02%	-20.03%		
UNITED STATES OIL FUND LP	Commodit	-2,161	-17,639	-22.66	USD	-48,013	24.25%	-0.445%	0.50%	-4.33%	0.63%	-5.37%
VABES MSCI EMERGING MARKET	Equity	1,257	-8,743	38.98	USD	46,998	15.31%	-0.087%	0.50%	-3.48%	0.70%	-1.69%
SPDR EURO STOXX 50 ETF	Equity	1,284	-9,716	36.18	USD	46,023	16.70%	-0.195%	0.50%	-3.39%	0.65%	-1.27%
IRRENCYSHARES JAPANESE YEN	FX	600	-4,400	81.71	USD	49,020	8.41%	-0.131%	0.50%	-3.67%	-0.10%	-1.58%
DOW JONES INDUS. AVG	Equity	78	28	17,346.34	USD	1,372,535	10.59%	0.040%	14.00%	5.03%	19.38%	13.61%
SPDR GOLD SHARES	Commodit	12,007	2,007	117.69	USD	1,413,104	13.39%	-0.059%	14.42%	2.41%	16.82%	-20.61%
SPDR S&P 500 ETF TRUST	Equity	12,400	2,400	204.19	USD	2,531,956	10.90%	0.042%	25.23%	5.00%	19.72%	26.45%

Figure 92: A) Positions of instruments colored red are achieved after selling. Positions in Instruments colored green after buying.

The Risk Return chart graphs your portfolio and the optimized simulation.

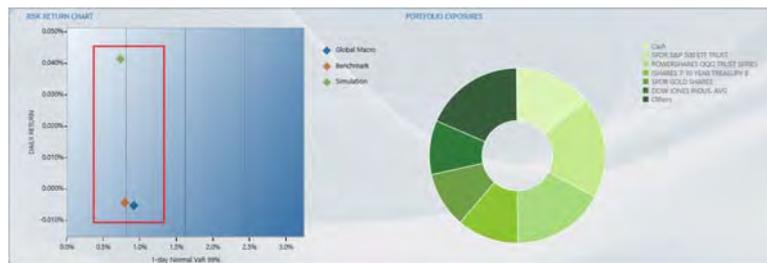


Figure 93: A) Compare the risk and return char after optimization.

The Profile Information panel displays information about the simulation.

In the top section the values in parenthesis are the optimized simulation values.

In the bottom section the green values are the optimized simulation and the blue values are the initial portfolio.



Figure 94: A) Optimized simulation analytics appears in green. Initial portfolio analytics appears in blue.

## 7.7 Running a Portfolio Backtest

In a portfolio backtest, your portfolio composition remains the same and is backtested against historical prices. You can see the risk, return, and diversification of your portfolio in past time frames.

You can run a portfolio backtest during a crisis period to see how your portfolio performs in terms of risk and performance if you expect a crisis period in the future.

You can also optimize your portfolio and run a backtest on the optimization. Then you can compare the results of the backtest. If you are satisfied with the optimization you can reallocate your real portfolio. You can also run a backtest on a portfolio benchmark if a benchmark is configured.

- 1) In the Home view, choose the portfolio that you want to run a backtest on. You can run simulations and optimizations on the portfolio prior to running backtests.

Portfolio	Market Value	Target Risk Level	Currency	Current Risk Level	Parameters Profile	Benchmark	Alert	Actions
Funds Portfolio	472,898	Conservative	EUR	Dynamic	Default	Balanced Benc		
Euro Bonds Bench.	10,000,000	Conservative	EUR	Conservative	Default			
European Bonds	15,041,758	Conservative	EUR	Conservative	Default	Euro Bonds Be		
IQ Hedge Multi-Str	10,000,000	Balanced	USD	Conservative	Default			
Global Macro	9,802,357	Balanced	USD	Balanced	Default	IQ Hedge Mul		
Multi asset class	976,058	Balanced	EUR	Conservative	Default			
Balanced Bench.	10,000,000	Balanced	EUR	Balanced	Default			
Emerging market	37,144,707	Balanced	USD	Aggressive	Default	M&P1 World4		

Figure 95: A) Choose a portfolio to backtest.

- 2) In the What If view, you can optimize your portfolio or run simulations. Any saved simulation or optimization can be backtested.
- 3) Choose the Backtest view to configure your backtest.

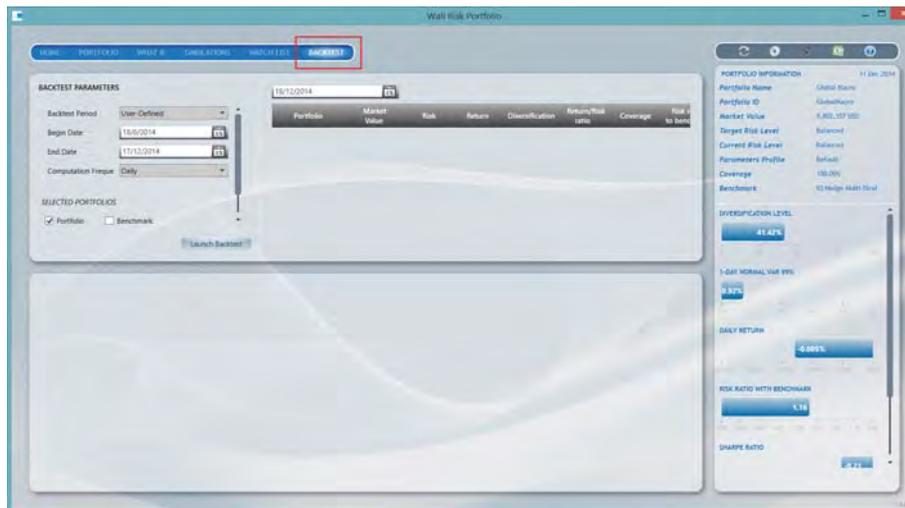


Figure 96: A) Choose Backtest.

- 4) Configure your backtest parameters:



Figure 97: A) Choose a specific time period or choose User-Defined to choose your own dates.

- Backtest Period: Choose a backtest time period from the drop down box. You can choose a specific historical period or you can choose your own dates by selecting user-Defined and then choosing the dates in begin date and end date fields. The time frames

available are configured in an .xml file in your application folder.

- **Begin Date:** Displays the begin date of the backtest. If you've selected User-Defined you may click the calendar widget and select a date.
- **End Date:** Displays the end date of the backtest. If you've selected User-Defined you may click the calendar widget and select a date.
- **Selected Portfolios:** Check the portfolios to backtest. The selected portfolios display in the graphs below.

Click the Launch Backtest button.

- 5) The backtest launches and the results are displayed. You can choose the analytics you wish to display by clicking the appropriate analytics button.

The snapshot data table displays analytics for each backtested portfolio for as specific date. Choose the date from the drop down box to update the chart. Only dates use for historical data can be selected. That is, if you have chosen a monthly computation frequency then only one day per month can be selected. Unavailable dates are crossed out.



Figure 98: A) Snapshot data table displays analytics for a specific date. B) Click an Analytics button to see the backtest chart.

- 6) You can mouse over the backtest results to analytics for a specific day. The mouse over displays the analytic, the date and the value for the portfolio.



Figure 99: A) Mouse over backtest results to see details.

## 7.8 Estimating the added-value of New Instruments from the Watch List

- 1) Open your portfolio description CSV file.
- 2) Add the new to the list of existing positions with a 0 in the Position column.

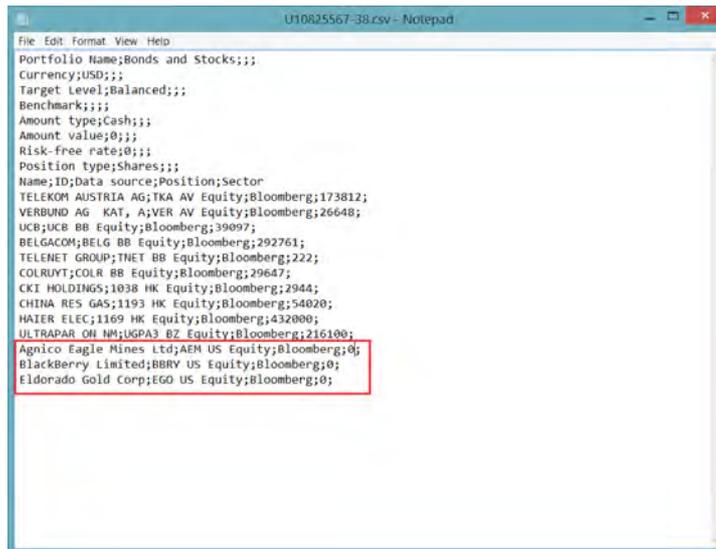


Figure 100: A) Watch list items must have a 0 in the Position column.

- 3) Save and close your CSV file.
- 4) Refresh the application by clicking the Refresh button (🔄) and select the Home view.
- 5) Select the portfolio for which you added instruments to the watch list.
- 6) Click the Watch List link to access the Watch List window.

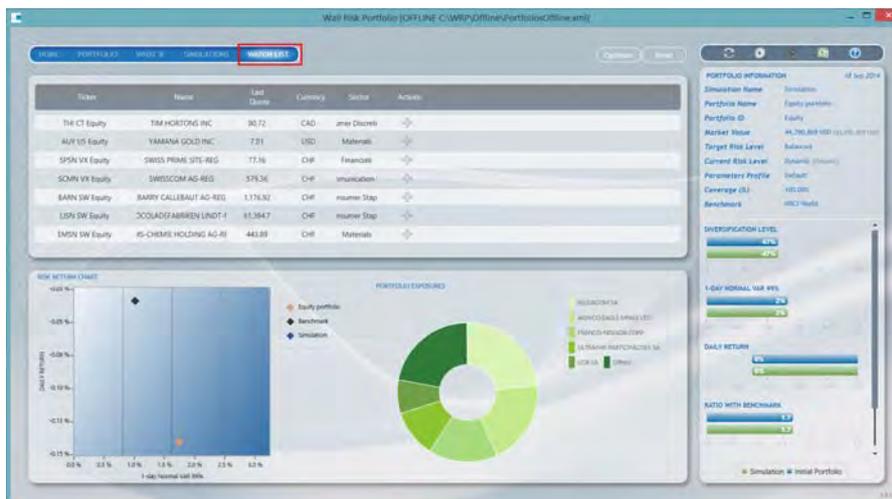


Figure 101: A) Click Watch List.

- 7) Click the Plus button on the instruments you want to add in your portfolio.

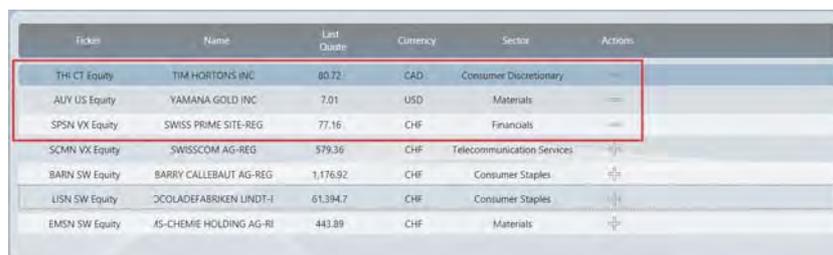


Figure 102: A) Click the Plus button for any instrument that you may want to add to simulations.

- 8) Click the What If link to access the What If window. Watch List items are displayed in italics and starred.

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Actions
KINROSS GOLD CORP	Materials	69,574	3.64	USD	253,249	26.83%	-0.07%	0.57%	0.81%	-0.29%	
KINA RESOURCES GAS GROUP LT	Utilities	54,020	22	HKD	153,333	28.52%	-0.02%	0.35%	-0.01%	-0.05%	
HEUNG KONG INFRASTRUCTURE	Utilities	2,944	55.25	HKD	20,986	15.59%	0.05%	0.05%	-0.01%	0.02%	
TELENET GROUP HOLDING NV	Consumer Di	222	44.6	EUR	12,795	20.60%	0.01%	0.03%	0.00%	0.00%	
<i>TIM HORTONS INC</i> ★	<i>Consumer Di</i>	<i>0</i>	<i>88.28</i>	<i>CAD</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0.00%</i>	<i>0.00%</i>	<i>0.00%</i>	
<i>YAMANA GOLD INC</i> ★	<i>Materials</i>	<i>0</i>	<i>7.01</i>	<i>USD</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0.00%</i>	<i>0.00%</i>	<i>0.00%</i>	
<i>SWISS PRIME SITE-REG</i> ★	<i>Financials</i>	<i>0</i>	<i>72.05</i>	<i>CHF</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0.00%</i>	<i>0.00%</i>	<i>0.00%</i>	

Figure 103: A) Watch list items are displayed in italics and starred.

- 9) Manually add new shares of the new instruments or optimize to let the optimizer select the best new instruments for your portfolio.
- 10) Compare the original portfolio with the optimal portfolio on the risk/return chart and evaluate the impact of the new instruments.
- 11) For an optimized portfolio, look in the portfolio table to see which new instruments were selected by the optimizer (look for green lines to see what positions were increased).

Name	Sector	Position	Last Quote	Currency	Market Value	Instrument Volatility	Instrument Return	Weight	Risk Contribution	Return Contribution	Actions
ULTRAFAR PARTHOPACOS SA	Energy	118,805	54	BRL	2,714,287	21.21%	-0.01%	6.11%	3.38%	-0.30%	
INTACT FINANCIAL CORP	Financials	37,061	72.1	CAD	2,443,367	14.31%	0.06%	5.50%	0.88%	2.18%	
HEUNG KONG INFRASTRUCTURE	Utilities	3,143,312	55.25	HKD	2,240,528	15.59%	0.05%	5.05%	-0.14%	1.84%	
<i>TIM HORTONS INC</i> ★	<i>Consumer Di</i>	<i>27,496</i>	<i>88.28</i>	<i>CAD</i>	<i>2,275,566</i>	<i>35.96%</i>	<i>0.38%</i>	<i>5.00%</i>	<i>1.57%</i>	<i>13.54%</i>	
TELEKOM AUSTRIA AG	Telecommun	223,679	7.15	EUR	2,065,336	14.52%	0.04%	4.65%	0.51%	1.22%	
KINA RESOURCES GAS GROUP LT	Utilities	383,852	22	HKD	1,009,541	28.52%	-0.02%	2.45%	-0.09%	-0.39%	
BLACKBERRY LTD	Information T	70,647	10.75	USD	221,955	43.54%	0.22%	0.50%	0.66%	0.79%	

Figure 104: A) After optimization green lines have increased position values.

## 7.9 Using Benchmarks in Portfolio Analysis

- 1) Create and save a .csv file describing your benchmark. The benchmark is just another portfolio that must be loaded in the application, from any portfolio provider. The benchmark is used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.
- 2) Open the csv file of the portfolio to which you want to associate this benchmark.
- 3) Fill in the Benchmark field with the ID of the benchmark portfolio (that is, the name of the csv file of the benchmark).

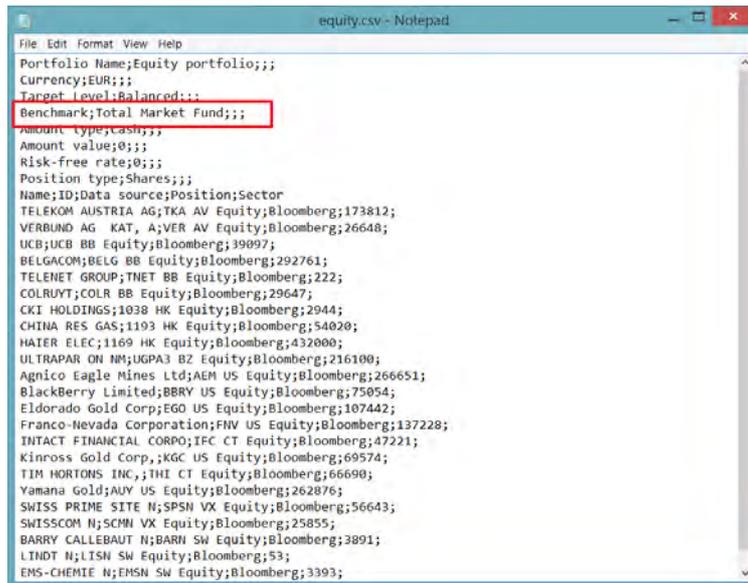


Figure 105: A) Fill in the Benchmark field with the correct ID from the benchmark .csv file.

- 4) Save and close the CSV file.
- 5) Refresh the application and go to the home page.
- 6) Choose the portfolio with the configured benchmark and then click the Portfolio tab. The Risk Return table shows only your portfolio and your benchmark for easy comparison.

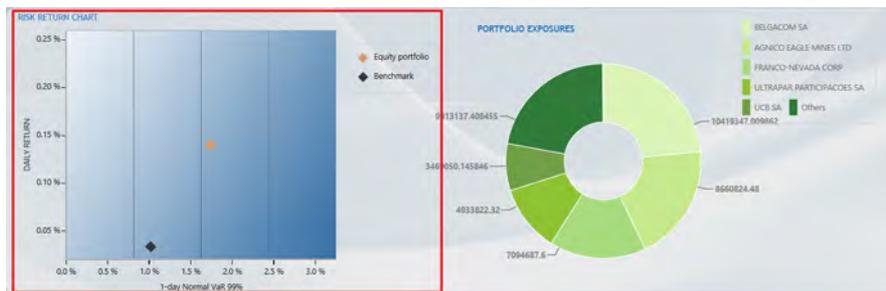


Figure 106: A) Compare your portfolio with the benchmark.

- 7) The risk ratio in the Portfolio Information Section displays the ratio between the portfolio risk and the benchmark risk with the same settings.
- 8) To compute the tracking error of the portfolio with respect to the benchmark, create a new profile for which you select the tracking error as the risk measure.

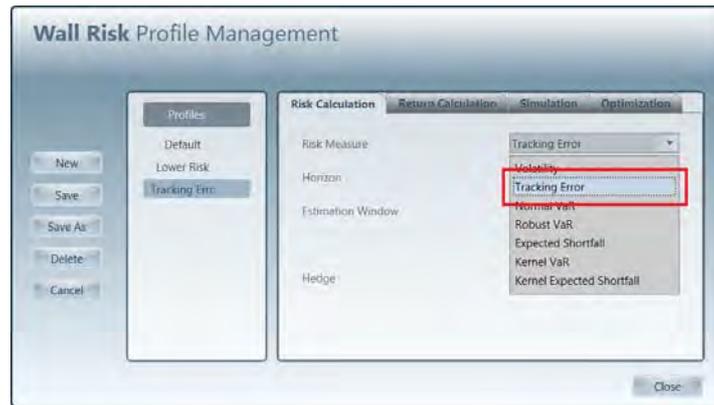


Figure 107: A) Choose Tracking Error from the Risk Measure dropdown.

- 9) Associate this new profile by clicking the Edit Profile icon for the portfolio and then choosing the profile that uses tracking error as the risk measure. Click the Save button and then the Close button.

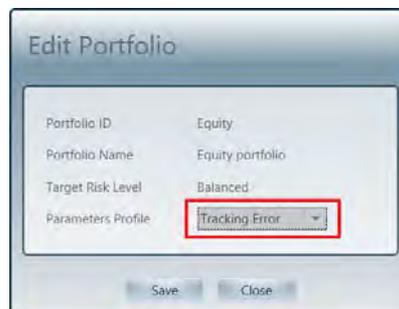


Figure 108: A) Choose the new tracking error profile.

- 10) The dashboard is automatically updated, and the displayed risk measure is now the tracking error. Note that for the tracking error, no Risk ratio is displayed since the tracking error of the benchmark with itself is 0.

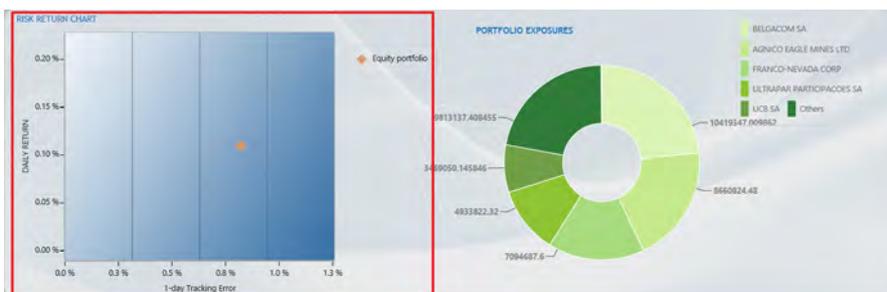


Figure 109: A) Dashboard is automatically updated.

## 7.10 Saving Simulations

You can save your simulations and then review them or edit them later. You can save up to 5 simulations per portfolio.

- 1) After choosing a portfolio and running a what-if trade simulation, click the Save As button. For information on what-if simulations, please see “Running What-if Trade Simulations” on page 49.
- 2) Enter a name for the simulation in the callout box. The name can be up to 25 characters.



Figure 110: A) Enter the name of the simulation in the callout box.

- 3) Click the check button (✓) to save the simulation.
- 4) A message box displays after the successful save. Click Ok.

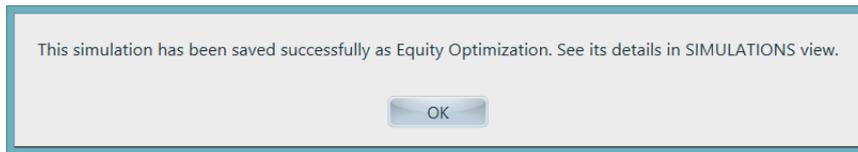


Figure 111: A) Success message.

- 5) The new simulation is displayed in the Simulations view.

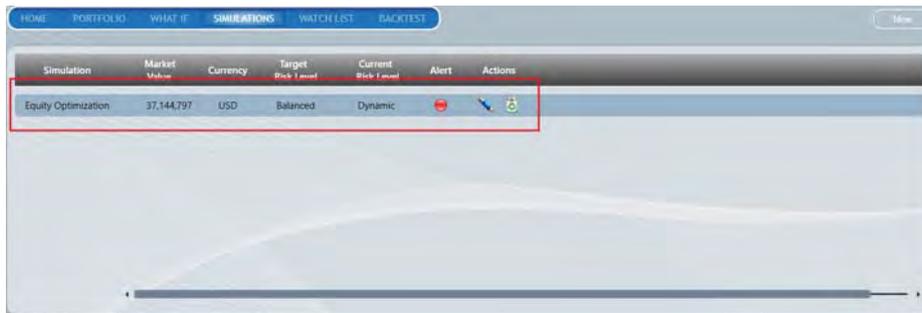


Figure 112: a) New simulation is displayed in the Simulations view.

### 7.11 Editing and Removing Saved Simulations

- 1) Choose a portfolio and then navigate to the Simulations view. Your saved simulations for that portfolio are displayed.

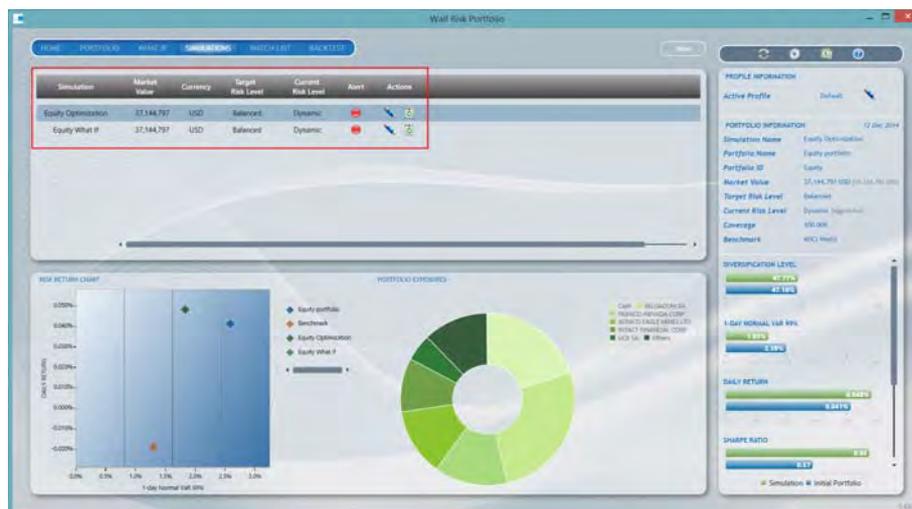


Figure 113: A) Your saved simulations are displayed.

- 2) Click the Edit Simulation icon (✎) for the what-if simulation that you want to edit. To remove

the simulation click the Remove Simulation icon (  ).

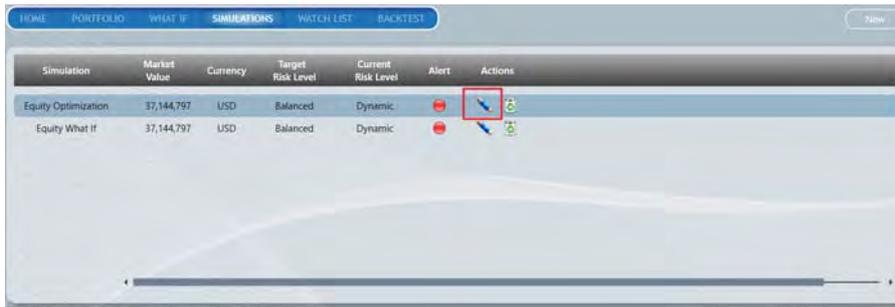


Figure 114: A) click the Edit Simulations icon.

- 3) The simulation is displayed in the What If view and you can run what if simulations by buying and selling instruments in the portfolio.

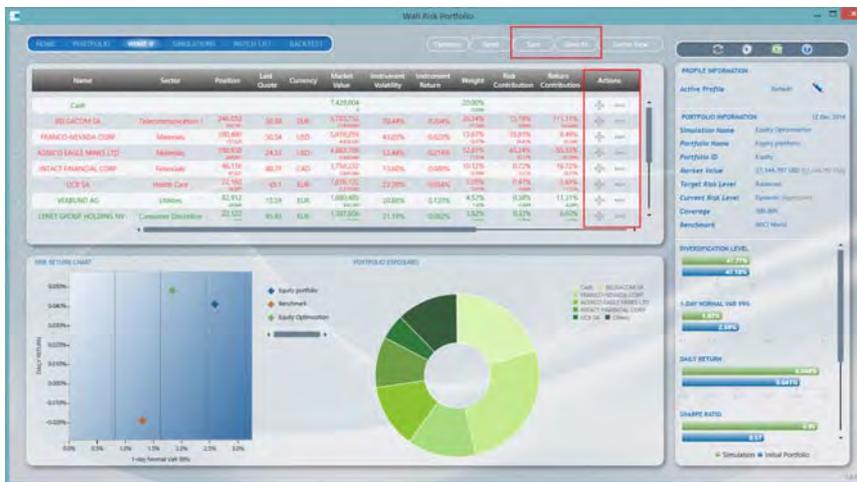


Figure 115: A) Click Save As to create a new saved simulation. B) Edit your simulation with the Plus and Minus signs.

- 4) Click the Save button to save the simulation with the existing name. Click the Save As button to save the simulation with a new name.

## 8 Troubleshooting

The following table enumerates, describes and suggests user action for errors that may occur when operating the Wall Risk Portfolio tool. If you are not able to fix any problems please contact Raise Partner.

### 8.1 Error Codes, Descriptions and User Actions Table

Error code	Error Description	User Action
41	Date expired when comparing to the expiration date in the code.	Please contact Raise Partner for assistance or re-install your license.
42	Date expired when comparing to the expiration date in the license key.	Please contact Raise Partner for assistance or re-install your license.
43	The MAC address in the "licence key" does not match with the one of the OS	Please contact Raise Partner for assistance or re-install your license.
44	Key not found in the registry (Windows) or in the file (Linux).	Please contact Raise Partner for assistance or re-install your license.
45	MAC address decryption failed.	Please contact Raise Partner for assistance or re-install your license.
46	Date decryption failed.	Please contact Raise Partner for assistance or re-install your license.
101	There is a Bloomberg security error.	Contact Bloomberg to discuss your access rights limitations.
201	The inflation linked bonds with embedded options are not covered.	This instrument is excluded from analysis. No user remediation is possible.
202	The instrument type is not covered (Market Sector: {0} and Security Type : {1}).	This instrument is excluded from analysis. No user remediation is possible.
301	The FX rate was not found.	Provide FX rate information via csv file. Please see the section, "Configuring your Portfolios" on page 11.
302	The position needs conversion but the FX rate history is unavailable.	Provide FX rate information via csv file. Please see the section, "Configuring your Portfolios" on page 11.
401	The price of the exchange stock is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.

402	The last/current price is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
403	The last/current price of the underlying is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
404	The historical price is negative.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
405	There is not enough historical price data.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
406	There is a piecewise constant historical price data error.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
501	The contract size is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
502	The contract value is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
503	The currency of the instrument is not available or is invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.

504	The currency of the underlying instrument is not available or is invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
505	The Generic value is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
506	The parity value is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
507	The Par Value field not available or invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
508	The Quoted Type field is not available or is invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
601	The instrument has expired.	Remove expired instruments from your portfolio.
602	There are no positions available.	Define non zero positions in your portfolio.
701	The behavior cannot be attached to a null Region.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.
702	Cannot apply ActivateViewOnFocusBehavior to a Region that contains Views that are not UIElement.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.
703	The type {0} does not have a public property named '{1}'. The current implementation of '{2}' does not allow specifying a nested path or a member that is not a property.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.

704	There is an unhandled instrument error.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.
801	Cannot convert from type {0} to enum type {1}. The source value must be a string type.	
802	The parameter should be convertible to an integer.	
803	The instrument's data source is not available.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
901	The .csv file is missing or has inaccessible instruments.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
902	The historical time series contains an invalid date.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
903	The instrument type is invalid.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
904	There is a missing instrument in the instruments.csv file.	Add the missing instrument to your csv file. Please see the section, "Configuring your Portfolios" on page 11.
1001	Proxy currency is different from instrument currency	Change proxy entry in ProxyList.csv. Please see the section, "Defining Proxies" on page 16.
1002	Proxy ticker is invalid	Change proxy entry in ProxyList.csv. Please see the section, "Defining Proxies" on page 16.