

# Monitortool/Toolbox/Workflowgenerator V1.1

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## Introduction

Strategyquant is able to produce a large quantity of strategies in a short time. The right generation and filtering process is crucial for success.

StrategyquantX makes the workflow processing available for this purpose.

In the area of “Custom Projects” there is a possibility of generating your own workflows.

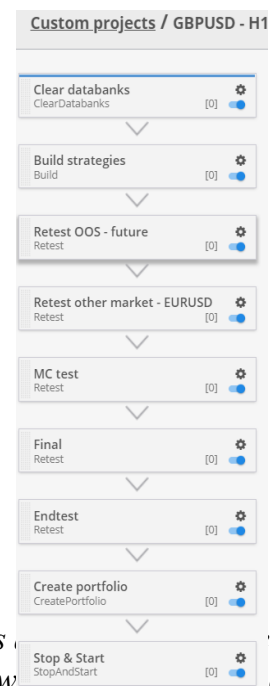
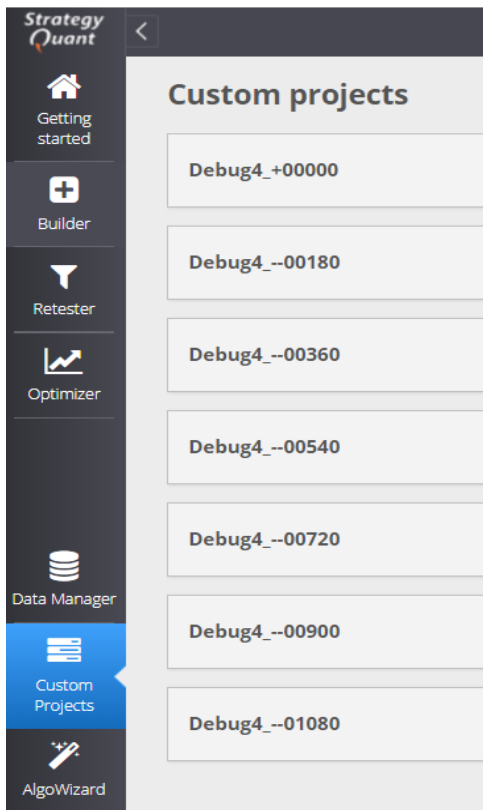


Abbildung 1: StrategyquantX is able to generate more than 200 workflows at the same time.

Abbildung 2: This is a good workflow for GBPUSD H1 generation. Found in SQ forum under the link below.

I found the workflow for GBPUSD H1 under the the following link <https://strategyquant.com/shared/gbpusd-simple-h1/>.

I modified this workflow for my own analysis (<https://drive.google.com/file/d/16IxUbKsg-yKdUj6Os33vAxAJdtRKZENI/view>)

For more analysis options, we need several workflows that are shifted by n days. A workflow is considered good if it achieves profitable final tests over different periods of time.

The normal way to check this behavior is to generate several workflows that have been generated by hand. StrategyquantX have at this moment the possibility to clone an existing workflow. The data modification must be done by hand. This is a very time- consuming and error-prone task.

The workflow generator comes into play at this point.

The workflow generator is able to generate StrategyquantX workflows automaticaly.

**Features:**

Generation of 100 or more workflows with one click

Collect the results of this generated workflows with on click

Show all results with one click

Share automatically the results over a shared drive

Make a backup of the results

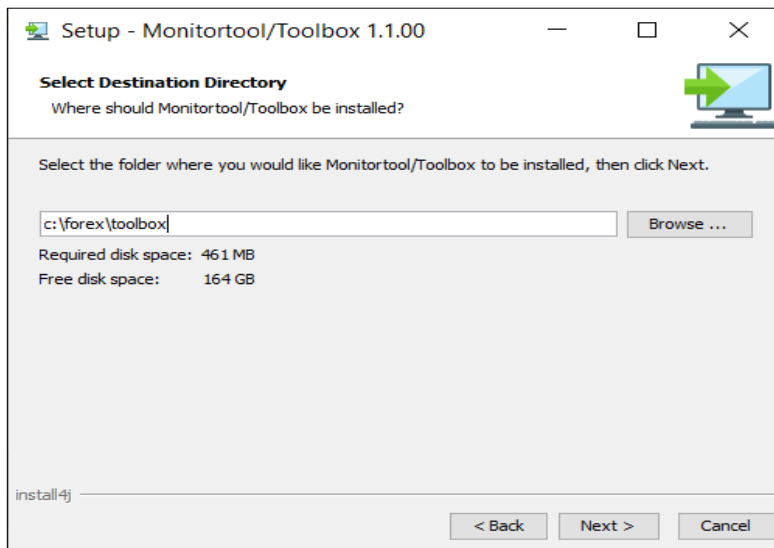
## Installation

The first step of using Monitortool/Toolbox is the installation. Toolbox have an easy installation process.

Download Toolbox from webside <https://monitortool.jimdofree.com/download/>



## Run Setup

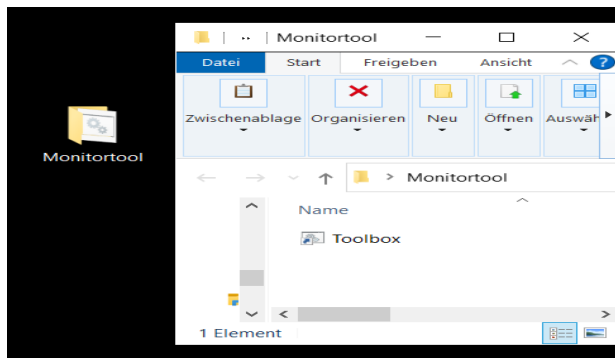


*Abbildung 3: I suggest to install toolbox not in the windows directory*

## Working with Toolbox

### Starting Toolbox

After Installation you will find a new folder on the desktop.

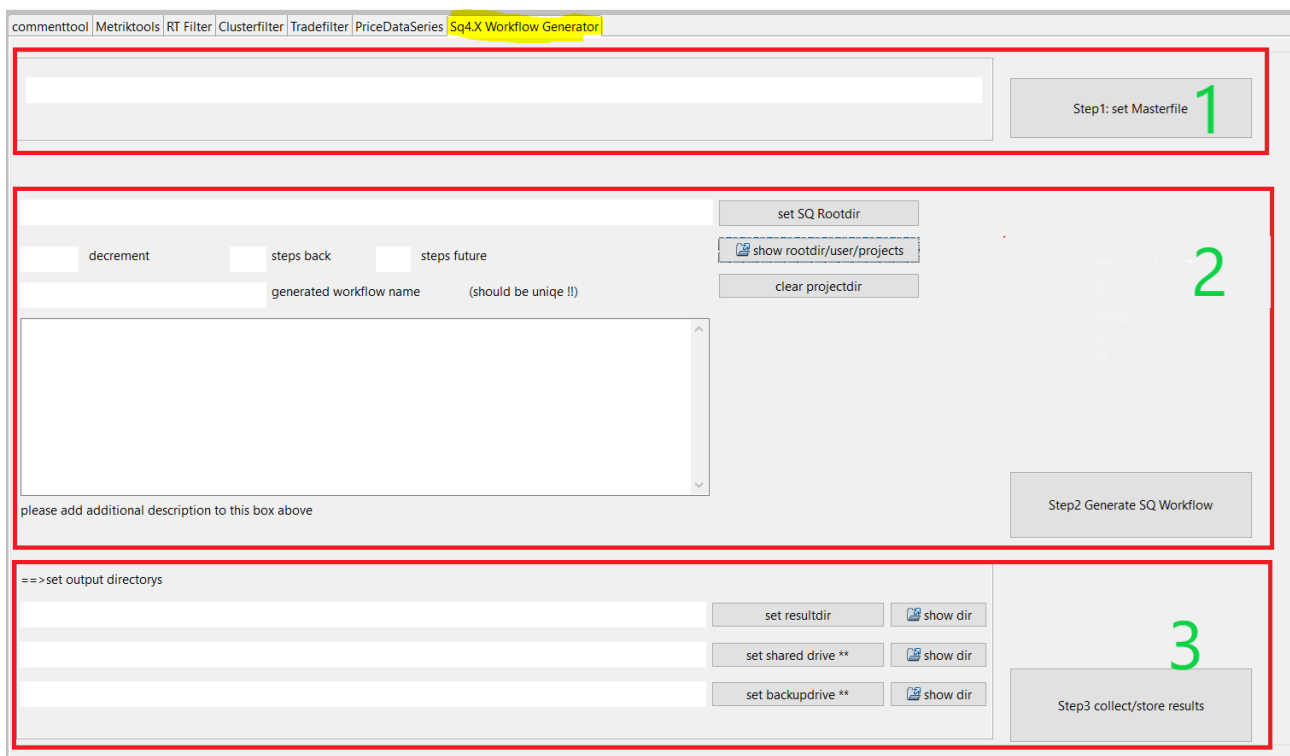


This folder contains a Toolbox starting icon. You can move this icon to the desktop if you want.

Start Toolbox by doubleclick

### The surface

After double-click icon the Workflow Generator is activated.



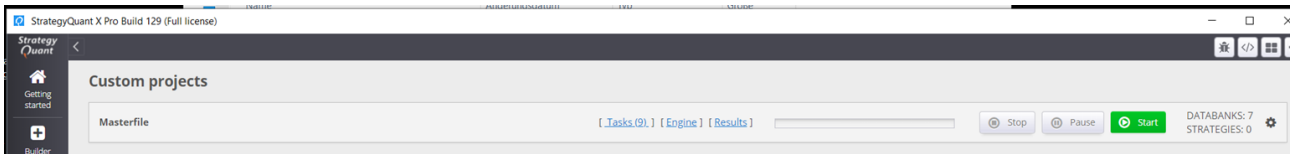
The workflow generation contains 3 main sections.

- 1) Masterfile
- 2) Generate workflow
- 3) Collect results

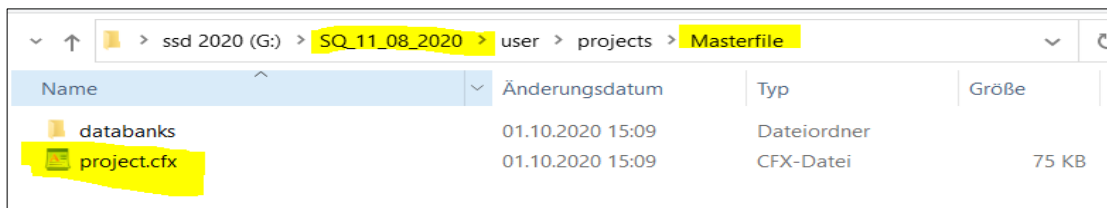
## Masterfile

The masterfile is the workflowfile which will be cloned and modified by the Toolbox/Workflowgenerator.

You can find the masterfile under the following location.



This file “project.cfx” is stored in the directory of the StrategyquantX installation.



=> Give the workflow generator this file by clicking “set Masterfile”

An example masterfile can be found in the toolbox example directory.

On my computer I have 3 StrategyquantX installation parallel (See picture below). It is easier for handling the master-file, workflow and the results.

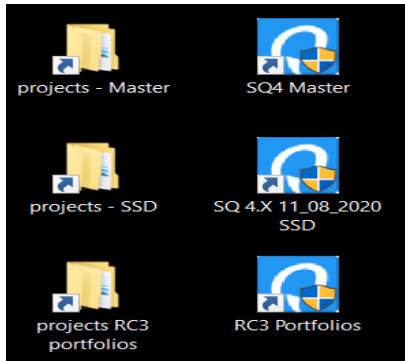
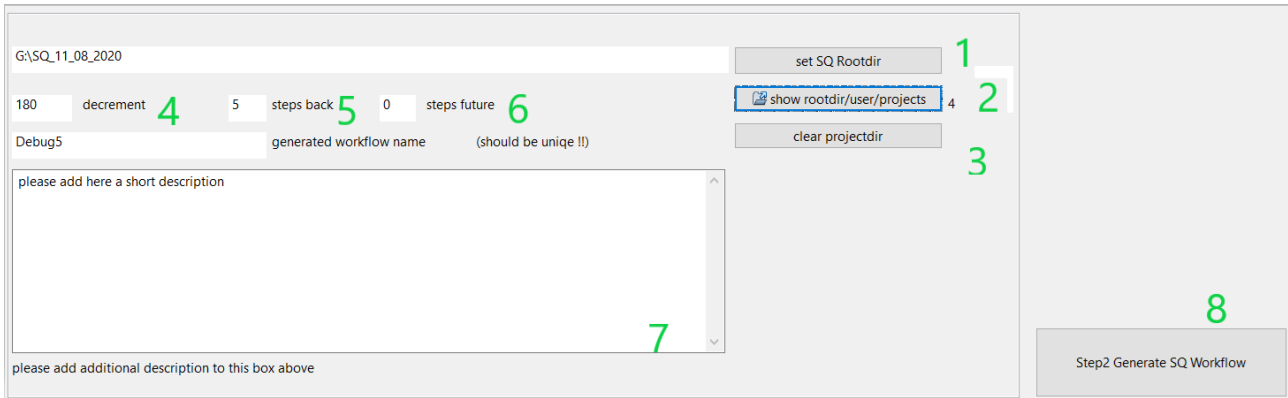


Abbildung 4: This is my workplaxe I have installed three different StrategyquantX on one computer. Please start only one SQ at the same time. In othercase you can get an memory problem

# Generate workflow



- 1) This is the rootpath of the SQ installation. The rootpath of the SQ is required to save the generated workflows.

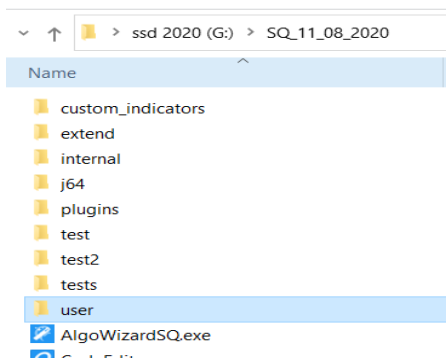


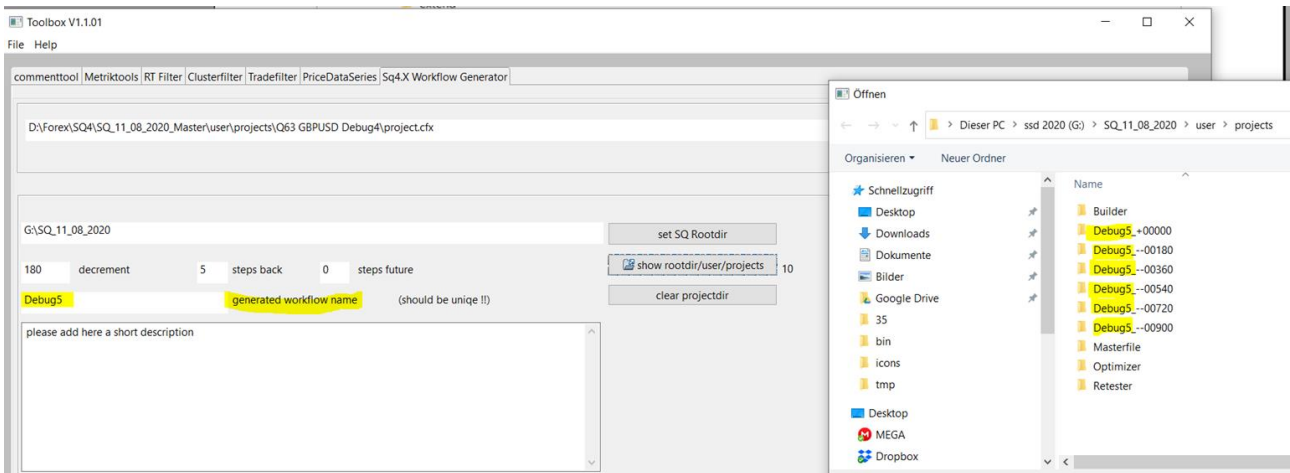
Abbildung 5: The rootpath on my machine is G:\SQ\_11\_08\_2020

- 2) You can look into the projectdir with one click. At the moment 4 Projects are stored in this location
- 3) Clear projectdir delete all workflows. Make sure that your master project is not deleted. The easiest way to ensure this is to keep the master project in a separate Strategyquant.
- 4) Every newly generated workflow is moved 180 days into the past.
- 5) Amount of generated workflows in the past
- 6) Amount of generated workflows in the future
- 7) Additional text possible
- 8) Click generate Workflow. (Make sure that **no** StrategyquantX is running before clicking this button !!)

After click generate a progress slider show the progress of the generation.

=> Ok the generation progress is very slowly a the moment. It can take 1-2 Minutes to generate the workflows. I will make it faster in one of the next releases.

The results can be checked by show project (2)



After the generation process you can find the generated workflows.

In projects directory are the generated workflows.

“The generated workflow name” is self-explanatory.

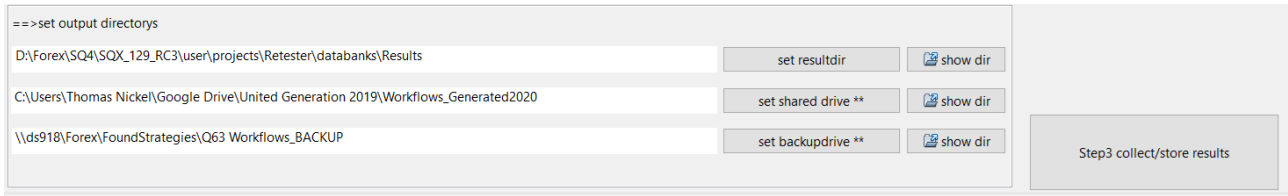
After starting the StrategyquantX all workflows should be available.



Abbildung 6: After click start on the first workflow all workflows will be done step by step



## Collect results



## Set resultdir

The resultdir is the directory where the collected portfolios are stored. You can show the results in an essay way. This will be shown later

## Set shared drive

All results will be stored in the shared drive too. This is for sharing this information with other team members.

## Set backupdrive

In the backdrive will be stored a backup of all results.

## Collect/store results button

Remark: Please stop all StrategyquantX before you click collect button.

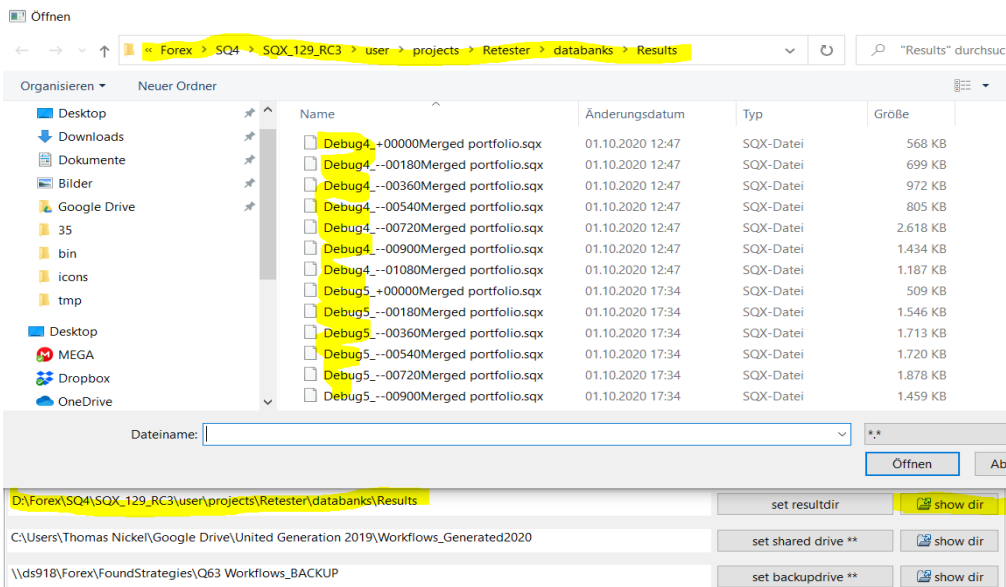


Abbildung 7: click

*show dir to show results*

After clicking “show dir” button, all results are stored in the target directory.

Start the appropriate StrategyquantX to show results in Retester.

The screenshot shows the Retester software interface. At the top, there's a 'Retester' logo and a '100%' progress indicator. Below that is a 'Task:' window which is currently empty. To the right, there are configuration sections: 'Data' (Engine: MetaTrader4, Symbol: GBPU5D\_M1, 2003.5.5 - 2018.0), 'Retest options' (Trading options: Exit on Friday, Money Management: Fixed size, 0), 'Databanks' (Source and Target databank: Results), and 'Cross checks (strategy robustness)' (Fast: Higher backtest precision, What if simulation, Monte Carlo trades manipulation; Slow: Backtests on additional market data).

Below the task window, there are statistics: Total tested: 0, Strategies per hour: 0.00, Failed: 0, Running time so far: 0 ms. Time per strategy [Detailed]: 0 ms. In databank: 13, Passed: 0, Estimated time to finish: 0 ms.

At the bottom, there's a 'Results (13)' section with a table of results. The table has columns for Strategy Name, Net profit, Mini equity change, # of trades, Profit factor, Stability, and Ret/DD Ratio. Each row includes a small equity curve chart.

Strategy Name	Net profit (Port...)	Mini equity cha...	# of trad...	Profit facto...	Stability (Po...	Ret/DD Rati...
Debug4_+00000Merged portfolio	\$ -1572.9		458	0.85	-0.61	-0.57
Debug4_-00180Merged portfolio	\$ 281.2		687	1.02	0.54	0.12
Debug4_-00360Merged portfolio	\$ -2258.3		745	0.89	-0.66	-0.5
Debug4_-00540Merged portfolio	\$ 279		665	1.01	0.62	0.05
Debug4_-00720Merged portfolio	\$ 21879.4		2381	1.38	0.76	3.24
Debug4_-00900Merged portfolio	\$ 14136.7		1379	1.48	0.81	4.47
Debug4_-01080Merged portfolio	\$ 10717.2		1050	1.44	0.81	3.24
Debug5_+00000Merged portfolio	\$ 1930.6		399	1.21	0.59	0.81
Debug5_-00180Merged portfolio	\$ -4728.7		1319	0.85	-0.7	-0.49
Debug5_-00360Merged portfolio	\$ -8287.1		1459	0.8	-0.64	-0.66
Debug5_-00540Merged portfolio	\$ -835.9		1441	0.98	-0.65	-0.13
Debug5_-00720Merged portfolio	\$ 12541.9		1865	1.28	0.71	2.53
Debug5_-00900Merged portfolio	\$ 15828		1788	1.35	0.78	4.04

## Evaluation:

Not all merged portfolios are positive. A workflow is perfect if all merged portfolios are positive.

It is very difficult to find a workflow with all merged portfolios are positive.

If you find a workflow which all merged portfolios are positive you can send to me [tnickel@gmx.de](mailto:tnickel@gmx.de)

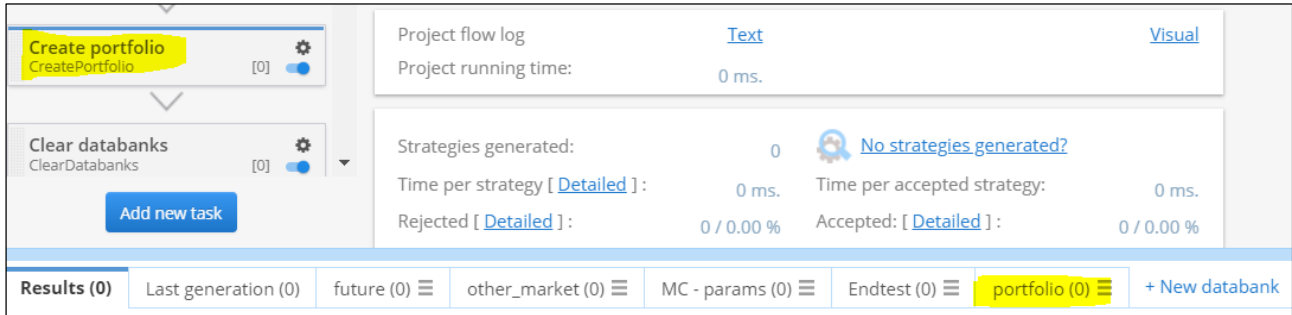
I will be happy. I will implement all what you want.

## Characteristics of a Masterfile/Masterworkflow

### Multiframe

Multiframe generation not working at the moment with the workflow generator. The problem is in the StrategyquantX. I have reported this issue. I hope that this will be solved in 4.130

### Create portfolio

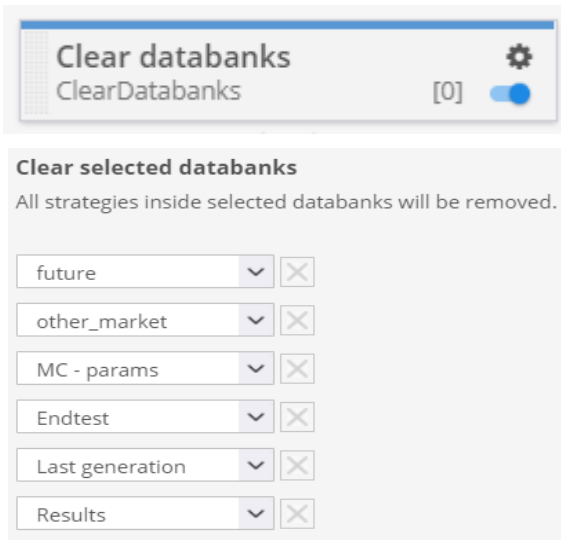


The screenshot shows the Strategyquant interface. On the left, there is a task list with 'Create portfolio' (CreatePortfolio) and 'Clear databanks' (ClearDatabanks). The 'Create portfolio' task is highlighted in yellow. Below it is an 'Add new task' button. On the right, there is a 'Project flow log' section with 'Text' and 'Visual' tabs. Below that, there are statistics: 'Project running time: 0 ms.', 'Strategies generated: 0' with a 'No strategies generated?' link, 'Time per strategy [Detailed]: 0 ms.', 'Time per accepted strategy: 0 ms.', 'Rejected [Detailed]: 0 / 0.00 %', and 'Accepted: [Detailed]: 0 / 0.00 %'. At the bottom, there is a 'Results (0)' tab and a list of databanks: 'Last generation (0)', 'future (0)', 'other\_market (0)', 'MC - params (0)', 'Endtest (0)', 'portfolio (0)' (highlighted in yellow), and '+ New databank'.

Every Masterworkflow should have a “CreatePortfolio” with a databank “portfolio”. The Toolbox fetches all generated files from the directory portfolio.

### Clear databanks

It make sense to clear all databanks except portfolio at the end of the masterworkflow. If the databank are not cleaned it is possible that the memory consumption goes over 64GB. This can happen in big workflow evaluation over 100 Workflows in one Strategyquant. If the databanks are cleaned, the memory consumption is much lower

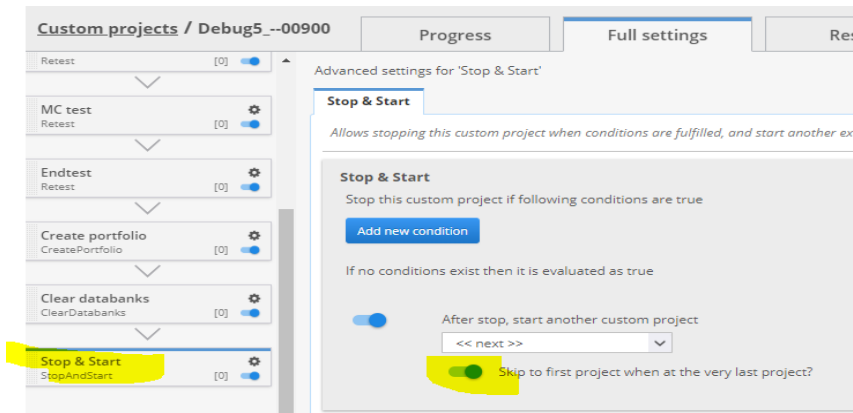


The screenshot shows the 'Clear databanks' dialog box. It has a title bar 'Clear databanks' and a subtitle 'ClearDatabanks'. There is a gear icon and a toggle switch. Below the title bar, there is a section 'Clear selected databanks' with the text 'All strategies inside selected databanks will be removed.' Below this, there is a list of databanks with dropdown menus and 'X' buttons: 'future', 'other\_market', 'MC - params', 'Endtest', 'Last generation', and 'Results'.

## Loop-generation

You can make a loop generation.

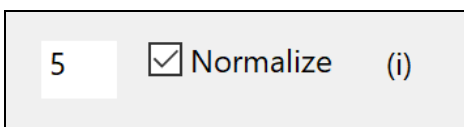
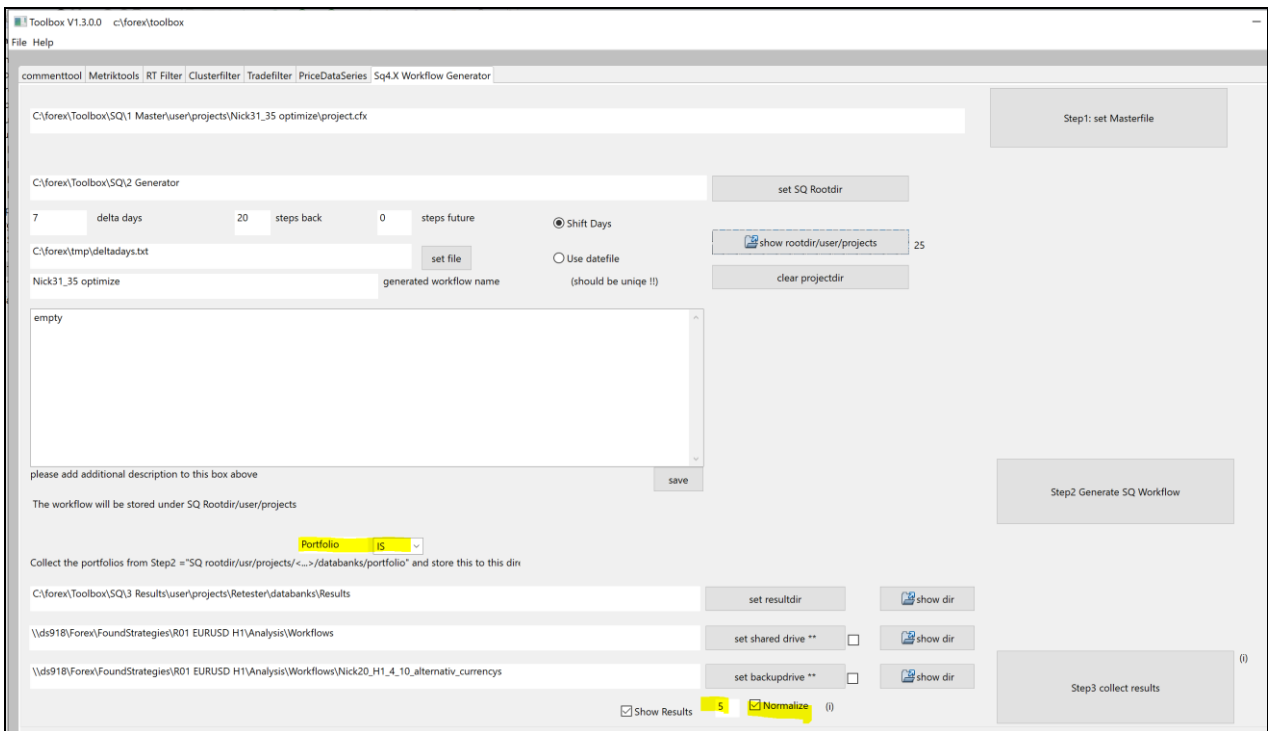
Switch last workflow to a loop to the beginning.



## New Features of Toolbox-Workflow-Generator

### Normalisation

The Workflow-Generator has new Features. I will explain some Features in this Chapter.



One problem is that some workflows sometimes produce a lot of strategies.

These many strategies can distort the result. For example, a workflow produces 1000 strategies.

If they are positive overall, the results of the other workflows are ignored.

If this flag is activated, we limit the maximum number of strategies.

N= generated strategies.

X=Max allowed strategies,

SUM = total winnings.

If  $N > X$  than Profit=(SUM/N)\*X.

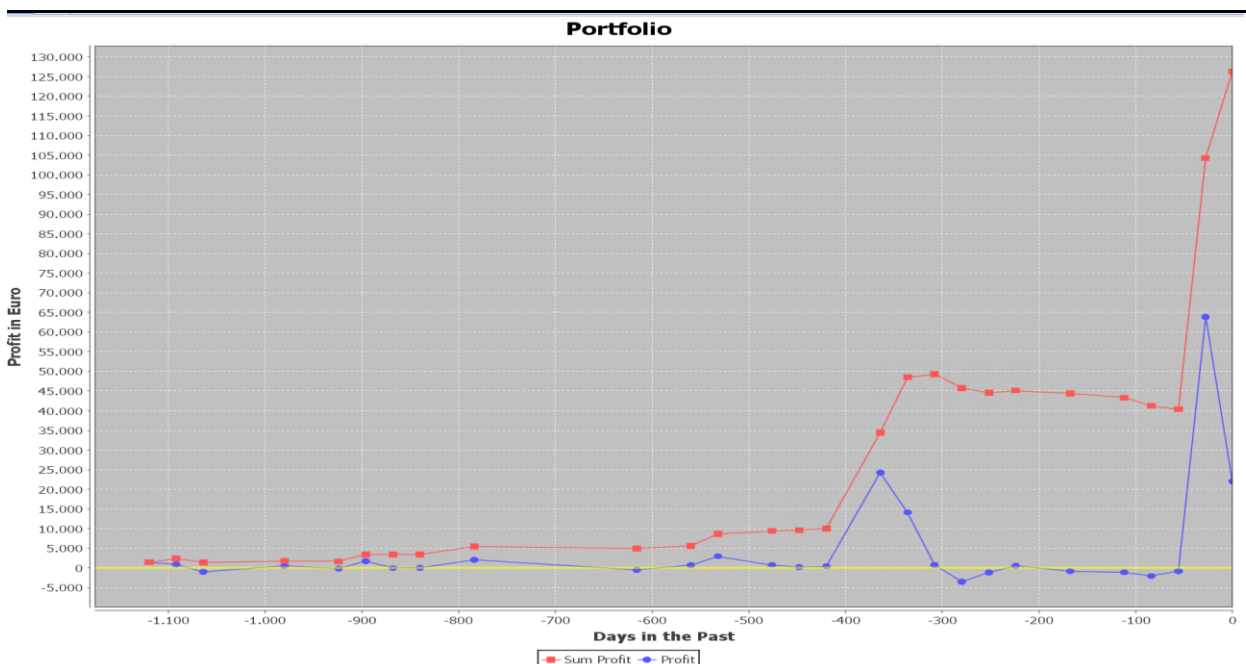
=>so profit/loss is limited by this number.

I will give an example for this Normalisation.

*****					*****								
"Norm n=0"	0.0	0.0	0.0	0.0	0	"Norm n=5"	0.0	0.0	0.0	0.0	0		
average results	0.0	0.0	0.0	0.0	0	average results	0.0	0.0	0.0	0.0	0		
average results <Nick33  2023-12-26   [0100-2300   _+00000>=	22021.00	22021.00	1.58	0.59	0.63	76	average results <Nick33  2023-12-26   [0100-2300   _+00000>=	1448.75	22021.00	1.58	0.59	0.63	76
average results <Nick33  2023-12-26   [0100-2300   _-00028>=	63832.00	63832.00	2.08	0.59	3.12	135	average results <Nick33  2023-12-26   [0100-2300   _-00028>=	2364.15	63832.00	2.08	0.59	3.12	135
average results <Nick33  2023-12-26   [0100-2300   _-00056>=	-842.00	-842.00	0.51	-0.65	-0.81	3	average results <Nick33  2023-12-26   [0100-2300   _-00056>=	-842.00	-842.00	0.51	-0.65	-0.81	3
average results <Nick33  2023-12-26   [0100-2300   _-00084>=	-2057.00	-2057.00	0.70	-0.67	-0.30	7	average results <Nick33  2023-12-26   [0100-2300   _-00084>=	-1469.29	-2057.00	0.70	-0.67	-0.30	7
average results <Nick33  2023-12-26   [0100-2300   _-00112>=	-1078.00	-1078.00	0.22	-0.66	-1.00	4	average results <Nick33  2023-12-26   [0100-2300   _-00112>=	-1078.00	-1078.00	0.22	-0.66	-1.00	4
average results <Nick33  2023-12-26   [0100-2300   _-00168>=	-760.00	-760.00	0.64	-0.63	-0.80	3	average results <Nick33  2023-12-26   [0100-2300   _-00168>=	-760.00	-760.00	0.64	-0.63	-0.80	3
average results <Nick33  2023-12-26   [0100-2300   _-00224>=	574.00	574.00	1.59	0.64	0.99	5	average results <Nick33  2023-12-26   [0100-2300   _-00224>=	574.00	574.00	1.59	0.64	0.99	5
average results <Nick33  2023-12-26   [0100-2300   _-00252>=	-1202.00	-1202.00	0.70	-0.66	-0.35	8	average results <Nick33  2023-12-26   [0100-2300   _-00252>=	-751.25	-1202.00	0.70	-0.66	-0.35	8
average results <Nick33  2023-12-26   [0100-2300   _-00280>=	-3488.00	-3488.00	0.54	-0.45	-0.57	6	average results <Nick33  2023-12-26   [0100-2300   _-00280>=	-2906.67	-3488.00	0.54	-0.45	-0.57	6
average results <Nick33  2023-12-26   [0100-2300   _-00308>=	736.00	736.00	1.59	0.62	2.01	5	average results <Nick33  2023-12-26   [0100-2300   _-00308>=	736.00	736.00	1.59	0.62	2.01	5
average results <Nick33  2023-12-26   [0100-2300   _-00336>=	14166.00	14166.00	1.66	0.45	1.03	87	average results <Nick33  2023-12-26   [0100-2300   _-00336>=	814.14	14166.00	1.66	0.45	1.03	87
average results <Nick33  2023-12-26   [0100-2300   _-00364>=	24293.00	24293.00	3.16	0.54	6.21	114	average results <Nick33  2023-12-26   [0100-2300   _-00364>=	1065.48	24293.00	3.16	0.54	6.21	114
average results <Nick33  2023-12-26   [0100-2300   _-00420>=	444.00	444.00	1.28	0.67	0.28	2	average results <Nick33  2023-12-26   [0100-2300   _-00420>=	444.00	444.00	1.28	0.67	0.28	2
average results <Nick33  2023-12-26   [0100-2300   _-00448>=	223.00	223.00	1.09	0.65	0.13	4	average results <Nick33  2023-12-26   [0100-2300   _-00448>=	223.00	223.00	1.09	0.65	0.13	4
average results <Nick33  2023-12-26   [0100-2300   _-00476>=	786.00	786.00	6.78	0.69	8.02	2	average results <Nick33  2023-12-26   [0100-2300   _-00476>=	786.00	786.00	6.78	0.69	8.02	2
average results <Nick33  2023-12-26   [0100-2300   _-00532>=	3001.00	3001.00	1.39	0.54	0.63	10	average results <Nick33  2023-12-26   [0100-2300   _-00532>=	1500.50	3001.00	1.39	0.54	0.63	10
average results <Nick33  2023-12-26   [0100-2300   _-00560>=	661.00	661.00	1.27	0.65	0.31	2	average results <Nick33  2023-12-26   [0100-2300   _-00560>=	661.00	661.00	1.27	0.65	0.31	2
average results <Nick33  2023-12-26   [0100-2300   _-00616>=	-519.00	-519.00	0.63	-0.56	-0.37	2	average results <Nick33  2023-12-26   [0100-2300   _-00616>=	-519.00	-519.00	0.63	-0.56	-0.37	2
average results <Nick33  2023-12-26   [0100-2300   _-00784>=	2033.00	2033.00	5.35	0.60	4.35	3	average results <Nick33  2023-12-26   [0100-2300   _-00784>=	2033.00	2033.00	5.35	0.60	4.35	3
average results <Nick33  2023-12-26   [0100-2300   _-00840>=	70.00	70.00	1.26	0.63	0.38	2	average results <Nick33  2023-12-26   [0100-2300   _-00840>=	70.00	70.00	1.26	0.63	0.38	2
average results <Nick33  2023-12-26   [0100-2300   _-00868>=	-39.00	-39.00	0.91	-0.59	-0.09	2	average results <Nick33  2023-12-26   [0100-2300   _-00868>=	-39.00	-39.00	0.91	-0.59	-0.09	2
average results <Nick33  2023-12-26   [0100-2300   _-00896>=	1742.00	1742.00	7.38	0.47	16.28	2	average results <Nick33  2023-12-26   [0100-2300   _-00896>=	1742.00	1742.00	7.38	0.47	16.28	2
average results <Nick33  2023-12-26   [0100-2300   _-00924>=	-141.00	-141.00	0.93	-0.63	-0.12	4	average results <Nick33  2023-12-26   [0100-2300   _-00924>=	-141.00	-141.00	0.93	-0.63	-0.12	4
average results <Nick33  2023-12-26   [0100-2300   _-00980>=	469.00	469.00	1.96	0.59	1.20	3	average results <Nick33  2023-12-26   [0100-2300   _-00980>=	469.00	469.00	1.96	0.59	1.20	3
average results <Nick33  2023-12-26   [0100-2300   _-01064>=	-1014.00	-1014.00	0.30	-0.60	-0.83	4	average results <Nick33  2023-12-26   [0100-2300   _-01064>=	-1014.00	-1014.00	0.30	-0.60	-0.83	4
average results <Nick33  2023-12-26   [0100-2300   _-01092>=	907.00	907.00	2.36	0.47	2.27	2	average results <Nick33  2023-12-26   [0100-2300   _-01092>=	907.00	907.00	2.36	0.47	2.27	2
average results <Nick33  2023-12-26   [0100-2300   _-01120>=	1453.00	1453.00	3.70	0.43	2.80	2	average results <Nick33  2023-12-26   [0100-2300   _-01120>=	1453.00	1453.00	3.70	0.43	2.80	2
*****	0.0	0.0	0.0	0.0	0	*****	0.0	0.0	0.0	0.0	0		
overall average results=	4676.70	0	1.91	0.14	1.68	0	overall average results=	287.81	0	1.91	0.14	1.68	0

On the left side is a Walkflow-Analysis with an overall average result of 4676 Euro. This sounds good. But remember most of the profits are made in the time period with a shift of 28 Days in the past. In this period, we made a profit of 63832 Euro with 135 found strategies.

I will show the profit diagram.



This is the Diagram if I trade **all** the found strategies. But most time we can't trade so much Strategies. If we found 500 Strategies, we select only a small part of it for trading.

We have to choose the strategies with the best possibility to make profit. But the process to select the best strategies is not clear at the moment.

We don't want to make gambling.

The other problem is, if we trade all found strategies, sometimes we have very large amounts of strategies that we have to trade.

The solution is for example to select only 5 Strategies of the pool of the found strategies.

I want to trade only X Strategies. But we have N Strategies in the pool of generated Strategies.

We calculate the normalized profit in the following way.

If  $N > X$  than  $\text{Profit} = (\text{SUM-Profit}/N) * X$ .

This means: After this calculation, the large amounts of strategies found no longer have such a large effect on the final total.

I will show the profit-Diagram for  $x=5$  Normalization.

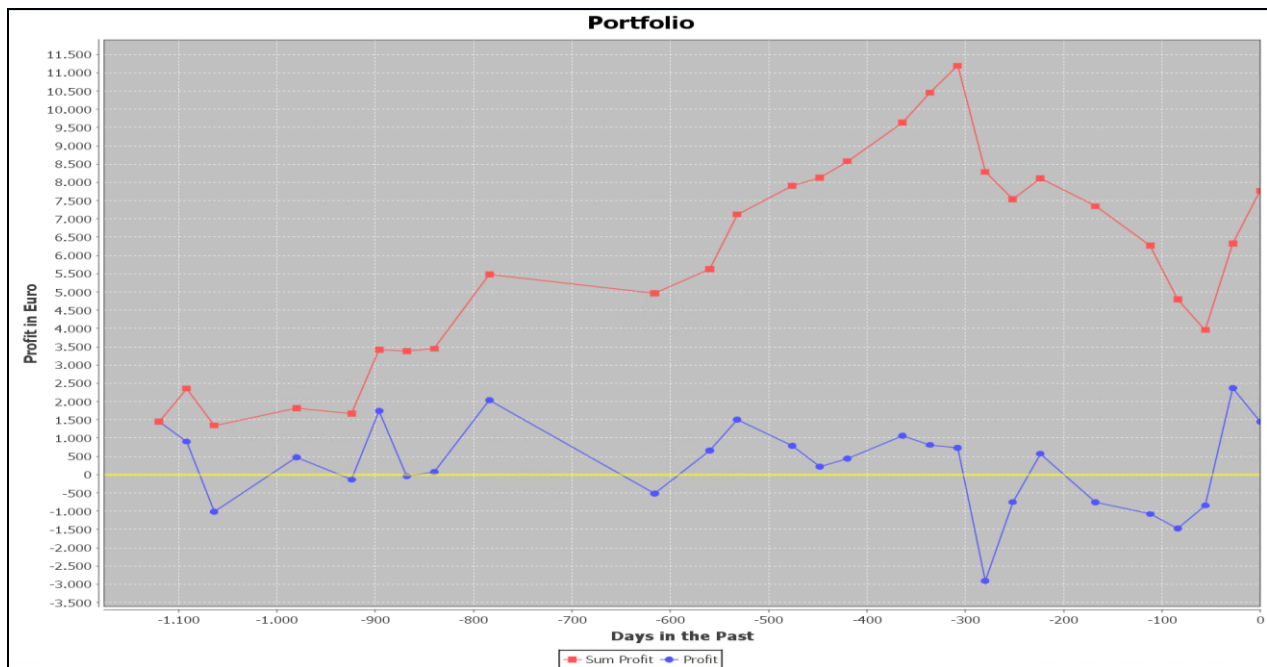


Abbildung 1: This result is very nice. We generate stable profits. The Sumation Profits increases the most time. This is the red line in this diagram.