Stylus Pro v11.5
Proxy Handling Features

Contents

Introduction

One of the most common challenges in performing quantitative analysis of investment returns is that it requires dealing with time series of different lengths. In many cases this requires users to decide whether to:

1. Drop a series from analysis if its track record is too short.
2. Reduce the time frame of the analysis to the common period that is usually determined by the shortest time series.
3. Extend shorter time series by assigning another series, a "proxy series," having longer history.

In Stylus Pro version 11.5, we enhanced our Proxy Handling functionality, which allows users to perform both ad-hoc assignments of proxies to analyzed series as well as automated assignments based on fund classifications or more complex rules. Such proxy assignments can be saved in a Stylus study in the newly created Proxy node. They can also be used in multiple studies by saving them in the Proxy Library, a feature of Stylus Workspace. This document provides details of how to use proxy functionality in Stylus.

Proxies in Stylus Studies

Parameters: Proxy Node

The Parameters section in the design tree contains a **Proxy** node. This node allows users to choose one of the seven options for proxy assignment within the study, after enabling the *Use Proxy* checkbox: *Workspace Default, Series, Benchmark, Style, Peer, Library* and *None* (Figure 1).
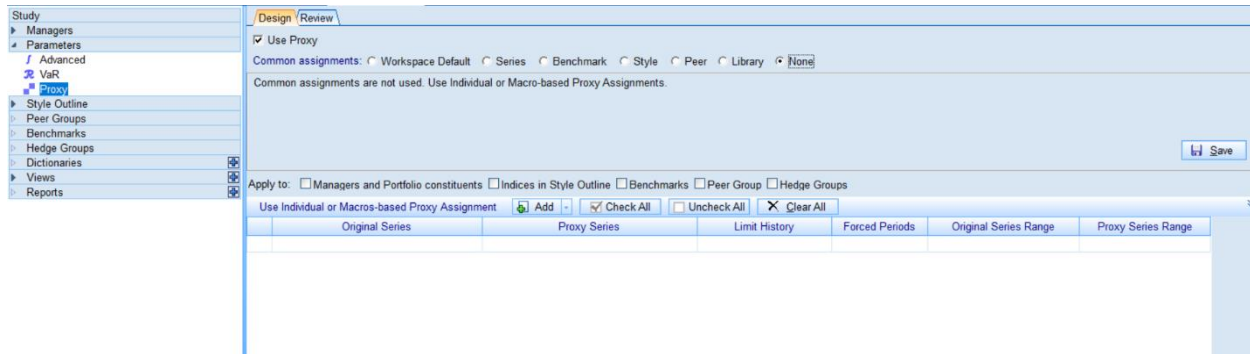

Figure 1

Workspace Default: This setting allows users to proxy the return series using the category association within Stylus Workspace and the specified proxy assigned on the category. Stylus Pro has mappings for several databases, including the Morningstar US family of databases and HFR database. Figure 2 shows an example of the default assignments of Proxy Series within Stylus Workspace. Users with an Advanced Analytics license can modify these assignments and create their own classification mappings.

Figure 2

Series: This setting allows users to assign a single proxy series (*S&P 500 Index* in the example below) to all the return series in the Stylus study.
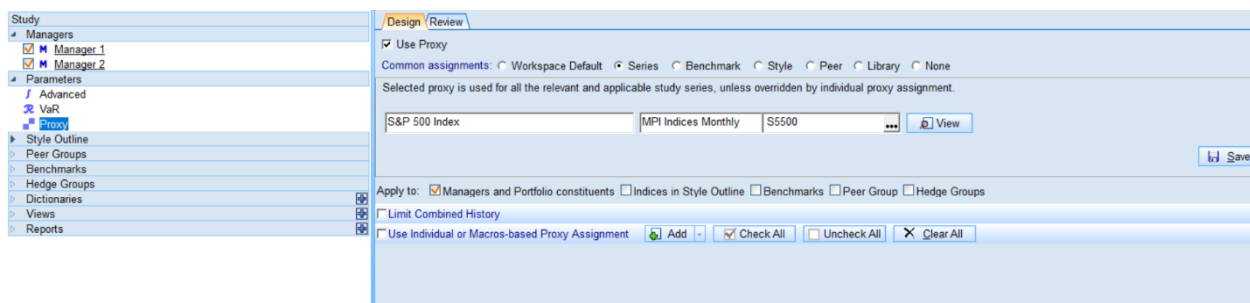

Figure 3

Benchmark: This setting allows users to apply one of the benchmarks selected in the Stylus study as a proxy series for all the managers available in the study. It is possible to specify the benchmark by selecting either the name of it or the exact numeric position based on the list available under the Benchmark node of the design tree (from 1 to 9 and from -1 to -9).
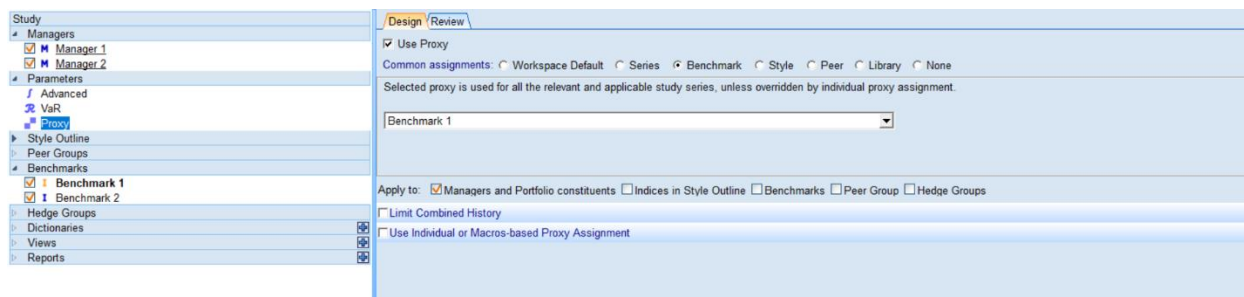

Figure 4

Style: This setting allows users to assign a synthetic series built dynamically as a proxy series for all the managers selected in the Stylus study. The synthetic series construction process relies on the market factors listed under the Style Outline node of the study design tree; the market risk exposures are calculated by regressing the manager versus the market factors. It is possible to choose among three different types of exposures (as result of the multi-factor regression) to be used to build the synthetic series: *earliest, average* and *recent* exposure.
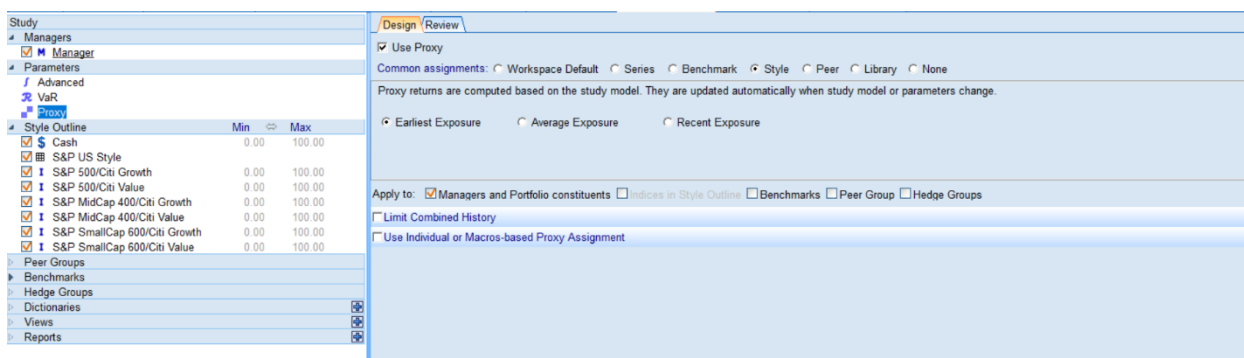
Figure 5

Peer: This setting allows users to use either the average or the median of a peer group as a proxy series for all the managers selected in the Stylus study. The existing peer group must be loaded into the study under the Peer Groups node of the design tree in order to compute the proxy series.
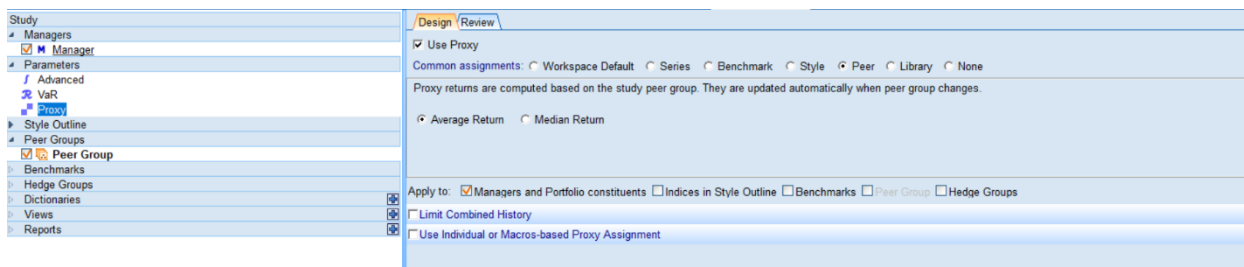
Figure 6

Library: This setting allows users to link the Stylus study to a library of generic proxy rules set in the Stylus Workspace. This feature allows users to build a Proxy Library and use it in multiple Stylus studies.

4

Workspace has also been seeded with 3 Morningstar based libraries to provide access to the following indices as a proxy.

- Morningstar Best Fit Index
- Morningstar Primary Index
- Morningstar Prospectus Benchmark

Figure 7 - Stylus study

Figure 8 - Stylus Workspace

Use Individual or Macro-based Proxy Assignments

This option allows users to assign an individual proxy to each series within the study. The option enables the grid shown in Figure 9. This option is also applicable when using one of the Common assignments and allows users to override any such assignment for specific series.

Figure 9

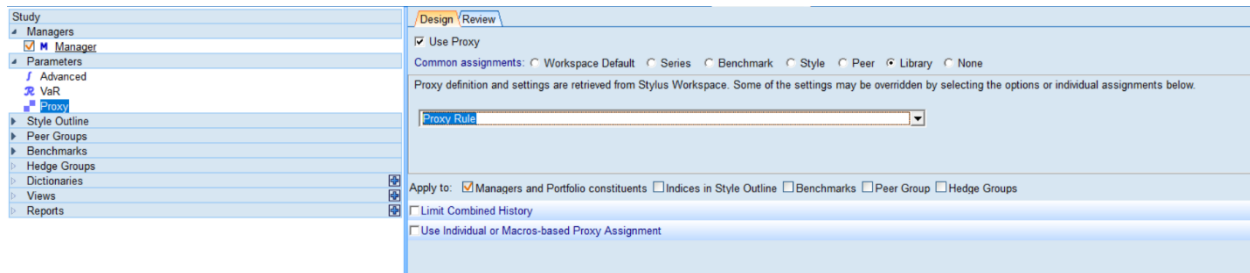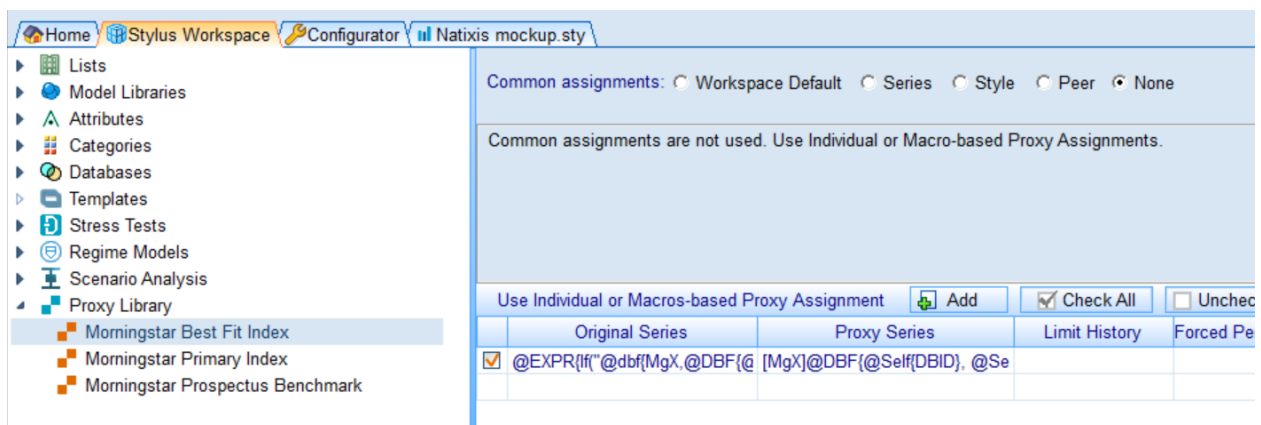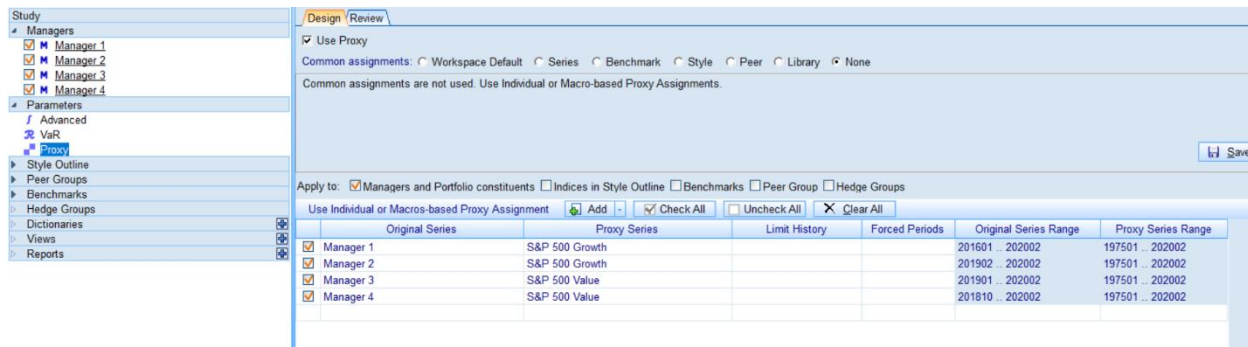The grid can be updated manually by adding series to "Original Series" column. It can also be populated by clicking the arrow next to "Add" button and selecting one of the options:

1. Add from databases
2. Add managers
3. Add indices
4. Add benchmarks
5. Add peer group series
6. Add sources

Notes:
- When a user selects a portfolio (.fnd file) the constituents of the portfolio will be added to the grid.
- Removing a series from the design tree does not automatically remove the series from this grid.

The Forced Periods field can be used to override the returns of any period with the proxy returns. This is often helpful when a manager starts and has a partial period return for the first month.

Column Definitions

Table 1

Original Series	Series for which the proxy is being defined
Proxy Series	Series which is being used to fill in the returns of the Original Series
Limit History	Maximum length of track record to be used within the study. The length specified is equal to Original History + Proxy used. For example, if the original manager has five years of history and the Limit History is specified as 10Y (10 years) then the combined series (original series + proxy) will be limited to no more than 10 years even if the Proxy series has a significantly longer history.

	The limit is specified as nP, where n is the number of periods and P is the period type (D: days, W: weeks, M: months, Q: quarters, Y: years). For example, 120M.
Forced Periods	Time periods to be overridden from the proxy series, even if the original series has returns for those periods. (A specified return value can also be specified instead of a proxy return). For example 20120501, 2013010120131231, 20150515[0.1408], 20150101..20151231[0.00].
Series Range	Shows the range of the original series (before proxy is applied)
Proxy Range	Shows the range of the proxy series
Check box column (left)	No proxy is applied to the series unless the checkbox is in checked. Users can check individual check boxes and also use Check/Uncheck buttons on top of the grid.

Proxy Information

Design Tree

When a returns series has a proxy assigned, it will appear underlined in the Design Tree. This is to help give a visual hint that a proxy is in use.
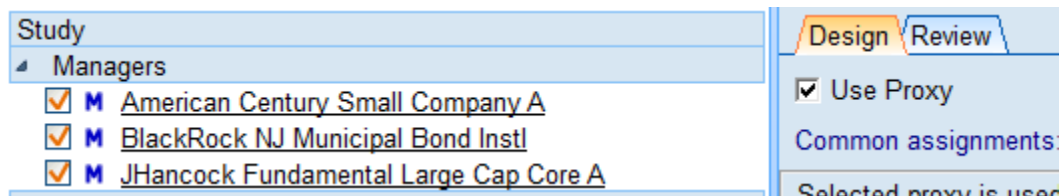

Figure 10

The proxy information will also appear at the bottom right of the manager detail pane.   In addition, you can see which returns are actually being used in the analysis through the "Used in Study" column.
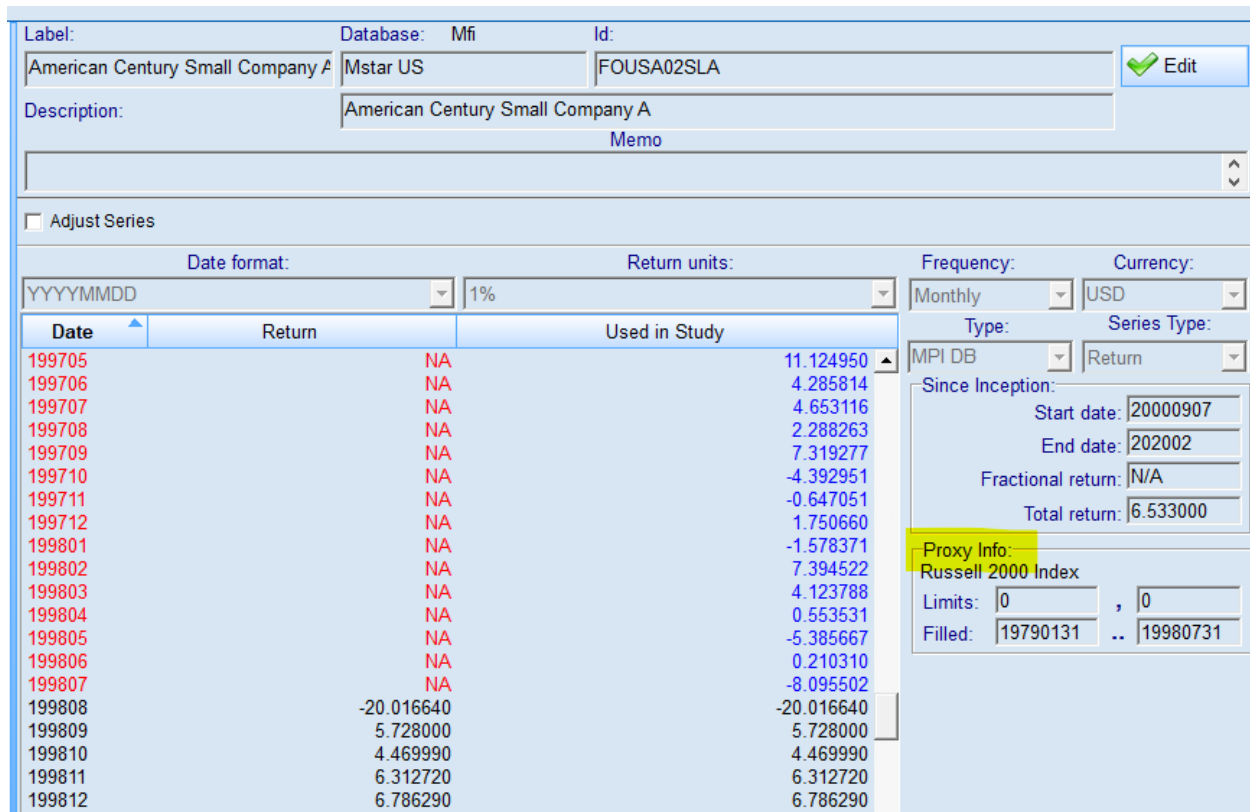

Figure 11

A Review tab has also been added to give a summary view of all the proxy series being used and the time range for each.

	Original Series	Original Series Range	Proxy Series	Proxy Series Range	Proxied Range
Manager	American Century Small Company A	199808 .. 202002	Russell 2000 Index	197901 .. 202003	197901..199807
Manager	BlackRock NJ Municipal Bond Instl	199009 .. 202002	ICE BofA US Municipal Securities Inde	198901 .. 202003	198901..199008
Manager	JHancock Fundamental Large Cap Core A	201106 .. 201601	Russell 1000 Index	197901 .. 202003	197901..201105

Figure 12

Proxied Range indicates the time period the proxy is being used in the study as the source of the returns for the Original Series.

Other Options
Apply To

By default, proxies are applied to individual managers and managers within portfolios specified by the Manager node on the design tree. Users can also enable proxy use for series specified in other sections of the design tree as shown in Figure 13.

Figure 13

Limit Combined History

Figure 14

When checked, this option will limit the history of combined series (original + proxy) to the specified number of days, weeks, months, quarters or years.

Fill Forward: This option turns on proxy returns for any time periods after a return series ends.

Reporting Proxy Information
In order to include proxy information in views and reports, several system properties have been added:

Table 2

STY_PROXYDBID	Database ID of the proxy series
STY_PROXYFILEID	File ID of the proxy series
STY_PROXYLBL	Label of the proxy series
STY_PROXYSTART	Start date of the combined (proxy + original series)
STY_PROXYEND	Last date the proxy series is used

In addition, relevant property options have been added to @SELF, @MNG and related macros. Please see our macro reference guide for more information.

Properties block can be used in reports and views to display proxy information.

Advanced Proxy Specification

When using the Individual Proxy assignment option, it is possible to specify both the series to be proxied and the series being used as a proxy in Stylus expressions and macros. The following example shows how to specify a category average series from the Morningstar database to be used as a proxy.

	Original Series	Proxy Series
☑	decode('@SELF{DBID}','Mfi',1,'Mce',1,'Mfv',1)=1	[@SELF{DBID}]@DBF{@SELF{DBID},@SELF{FILEID},Category Code}

Figure 15

The original series option specifies that any series where database ID is either "Mfi", "Mce" or "Mfv" will use the series that has an ID matching the category code. The category field for each fund within the above-mentioned databases will be represented as a two-letter code. The code will also correspond to an ID for a category average series (named as Cat: <Category Name>).

	Cat Code	STY_DBID	STY_PROXYLBL	STY_PROXYSTART	STY_PROXYEND
1290 Multi-Alternative Strategies R	GY	Mfi	Cat: Multialternative	20080430	20150731
1290 High Yield Bond A	HY	Mfi	Cat: High Yield Bond	20080430	20141128
1290 DoubleLine Dynamic Allocation I	CA	Mfi	Cat: Allocation--30% to 50% Equity	20080430	20160331
1290 Low Volatility Global Equity I	WS	Mfi	Cat: World Large Stock	20080430	20170228
1290 GAMCO Small/Mid Cap Value T	SB	Mfi	Cat: Small Blend	20080430	20141128
AMG Pantheon Advisory	MR	Mce	Cat: Miscellaneous Sector	20130228	20130430
1290 VT Convertible Securities K	CV	Mfv	Cat: Convertibles	20080430	20131031
AGFiQ US Market Neutral Anti-Beta	NE	Met	S&P 500 Index	19730131	20110930
ALPS Disruptive Technologies ETF	ST	Met	S&P 500 Index	19730131	20171229

Figure 16

Saving a Proxy

Proxy set up in a study can be saved and placed in a Proxy Library within Stylus Workspace. This is accomplished by clicking on the "Save" button in the top right corner of the proxy definition screen (Figure 17).

Use Proxy						

Common assignments: ○ Workspace Default ● Series ○ Benchmark ○ Style ○ Peer ○ Library ○ None

Selected proxy is used for all the relevant and applicable study series, unless overridden by individual proxy assignment.

S&P 500 Index	MPI Indices Monthly	S5500	...	View

💾 Save

Figure 17

Once saved, the proxy will be placed in the Proxy Library section of Stylus Workspace (Figure 18).
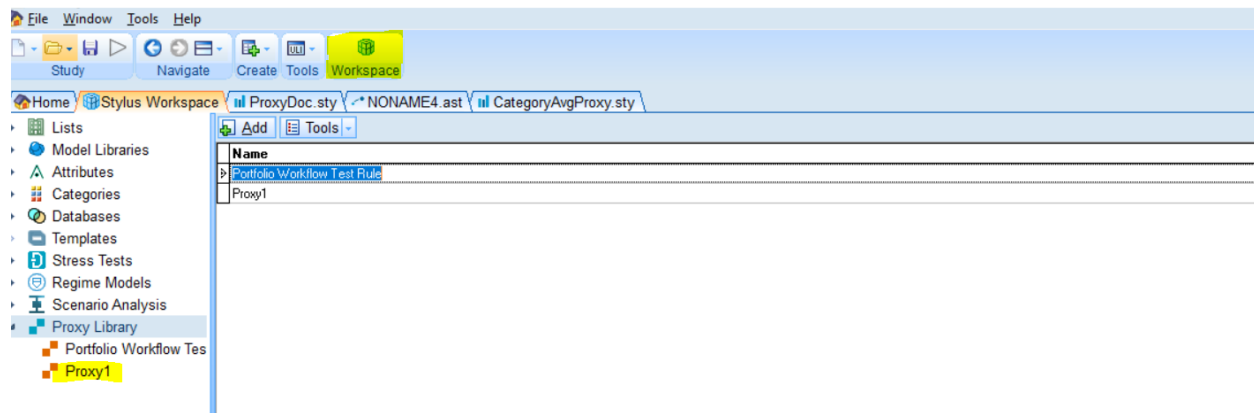
Figure 18

In Workspace, users can review and edit saved proxy configurations by clicking on the proxy name in the left navigation tree. Users can also create reusable proxy configurations from scratch within Stylus Workspace by clicking on the Add button.

Proxy Use in Other Modules

Proxy functionality can also be used in Allocator and Prospector studies similar to how they are used in Stylus studies.