

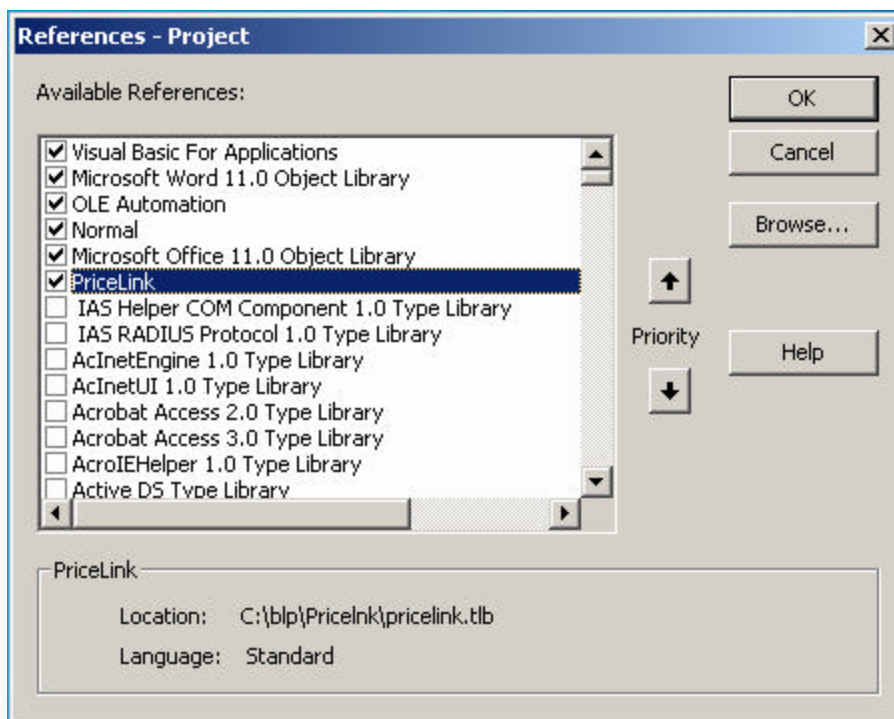
BLOOMBERG PRICELINK 2 ACTIVEX USER GUIDE

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Pricelink 2 ActiveX

The Pricelink 2 ActiveX is a library of functions that allow you to build your own custom application to contribute data to Bloomberg in Pricelink format.

After you have installed Pricelink 2 in the contributing PC, you should be able to add a reference to the Pricelink 2 library on your project. To do that in VBA, go to the References option in the Tools menu and check off Pricelink. This will make the different Pricelink calls in the library available for use in your project. For use with other programming languages, follow the instructions provided with the package to add references to new libraries.



The C# Runtime Callable Wrappers for the Pricelink 2 COM API can be found in the Interop.Pricelink.dll in the Pricelink 2 installation directory.

To establish a connection to the Pricelink session on a machine use the following code:

```
PriceLink.PriceLinkSession session = new PriceLink.PriceLinkSessionClass ();
```

This code only establishes a connection to the session, it does not cause one to be created, and can therefore be run multiple times without worrying about resource leaks.

Sending Page-based Data

The following Pricelink calls are available in the library for Page-based contributions:

1. ClearPage(ProductCode As String, PageNumber As Long)

Clear page allows you to delete the entire contents of a single page. The parameters of this formula are:

ProductCode:

This is the same monitor number. Your Bloomberg representative will provide this number to you.

PageNumber:

This is the page number whose contents you want to clear.

Return Value

None. On failure this method will throw a System.Runtime.InteropServices.COMException that will provide the specific error code.

2. UpdatePartialPage(ProductCode As String, PageNumber As Long, Data As String, Row As Long, Column As Long, TotalRows As Long, TotalColumns As Long, [ForceThrough As Boolean = False])

UpdatePartialPage allows you update any section of the page. The parameters of this formula are:

ProductCode:

This is the same monitor number. Your Bloomberg representative will provide this number to you.

PageNumber:

This is the page number where you want the update to appear.

Data:

This is the actual string of text you want to publish to the page.

Row:

This is the row number where you want the string of text to start. Typically, a Bloomberg page will have 23 rows including the header. This parameter can have a value between 0 and 22.

Column:

This is the column number where you want the string of text to start. Typically, a Bloomberg page will have 79 columns. This parameter can have a value between 0 and 79.

TotalRows:

This field should be left empty as it is reserved for future development.

TotalColumns:

This field should be left empty as it is reserved for future development.

ForceThrough:

This Boolean field defines whether the update should be sent even if the data being published is not different from what is already displayed in the Bloomberg monitor. If this field is set to True, the update will flow through even if it is a duplicate update.

Return Value

None. On failure this method will throw a `System.Runtime.InteropServices.COMException` that will provide the specific error code.

3. UpdateWholePage(ProductCode As String, PageNumber As Long, Data As String, TotalRows As Long, TotalColumns As Long, [ForceThrough As Boolean = False])

UpdateWholePage allows you update the page beginning in row 0, column 0. The parameters of this formula are:

ProductCode:

This is the same monitor number. Your Bloomberg representative will provide this number to you.

PageNumber:

This is the page number where you want the update to appear.

Data:

This is the actual string of text you want to publish to the page.

TotalRows:

This field specifies the number of rows in the update. Pricelink uses this parameter internally to split up the Data parameter into a series of rows. This value should be between 1 and the maximum number of row that a page will accept.

TotalColumns:

This field indicates the number of columns in each row. Pricelink uses this parameter internally to split up the Data parameter into a series of rows. This value should be between 1 and the maximum number of columns that a page will accept. For instance, if you send a string of text that is 80 characters long and you TotalColumns parameter is 40, the first 40 characters in your string will appear in row 1, and the following 40 characters will appear in row 2 (assuming you sent a 2 in your TotalRows parameter)

ForceThrough:

This Boolean field defines whether the update should be sent even if the data being published is not different from what is already displayed in the Bloomberg monitor. If this field is set to True, the update will flow through even if it is a duplicate update.

Return Value

None. On failure this method will throw a System.Runtime.InteropServices.COMException that will provide the specific error code.

Example:

```
Sub sendtextIII()
  Dim Texto As String
  Dim session As PriceLink.PriceLinkSession
  Set session = New PriceLink.PriceLinkSession
  Texto = "1234567890123456789012345678901234567890ABCDEFGHIJABCDEFGHIJABCDEFGHIJABCDEFGHIJ"
  session.UpdateWholePage "1", "1", Texto, 2, 40
End Sub
```

Running the above sub will result in a page that looks as follows:



Sending Digital Prices

The following Pricelink calls are available in the library for Digital Price contributions:

1. Sub Contribute(SecurityId As String, Value As String, TransactionType As String, [SecurityType As String], [SecurityIdType As String], [DateAndTime As Date], [Precision As Long = -1], [ForceThrough As Boolean = False])

Contribute allows you to send digital prices to Bloomberg for display in monitors and in the ALLQ screen. The parameters of this formula are:

SecurityId:

This is the actual identifier of the security you want to send the price for.

Value:

This is the actual number/price you want to send.

TransactionType:

This field defines what the number in the value field represents. The most common transaction types are "Bid", "Ask", "BidSize", "AskSize", "BidYield", and "AskYield" for a complete list of transaction types, please refer to Table 1.

SecurityType:

This field specifies the feed's slot you will be using to send prices to Bloomberg. This parameter could take the values "Bond" for the Fixed Income slot, "Forex" for the Currency slot, or "Oddbond" for the Oddbond slot. Your Bloomberg representative will tell you what Slot you should use.

DateAndTime:

This field should be left empty as it is reserved for future development.

Precision:

This field specifies the number of decimal places sent.

ForceThrough:

This Boolean field defines whether the update should be sent even if the data being published is not different from what is already displayed in the Bloomberg monitor. If this field is set to True, the update will flow through even if it is a duplicate update.

Return Value

None. On failure this method will throw a System.Runtime.InteropServices.COMException that will provide the specific error code.

Maintaining the List of Instruments in a Monitor

The following Pricelink calls are available in the library to Maintain the list of instruments in a monitor:

1. *Sub MonitorBenchmark(Slot As String, SecurityId As String, AccessType As Long, MonitorId As String, MonitorNumber As Long, PageNumber As Long, LineNumber As Long, LoadIndicator As String, YellowKey As Long, [SecurityShortname As String], [SecurityComment As String], [BenchmarkSecurityId As String], [BenchmarkAccessType As Long], [BenchmarkDescription As String])*

2. *Sub MonitorBenchmarkSortByMaturity(Slot As String, SecurityId As String, AccessType As Long, MonitorId As String, MonitorNumber As Long, LoadIndicator As String, YellowKey As Long, [SecurityShortname As String], [SecurityComment As String], [BenchmarkSecurityId As String], [BenchmarkAccessType As Long], [BenchmarkDescription As String])*

MonitorBenchmark and MonitorBenchmarkSortByMaturity allow you to Add and Delete securities to and from a given monitor. In addition, they allow you to Modify text fields related to those securities such as the Short Name, Comment, and Benchmark Description fields. The MonitorBenchmark sub should be used when you want to specify the page and the row where a particular instrument should appear in a monitor, while the MonitorBenchmarkSortByMaturity sub should be used when you want the list of instruments in the page is sort by maturity. As a result, the ByMaturity sub uses fewer parameters. The parameters of these formulas are:

Slot:

This field specifies the feed's slot you will be using to send prices to Bloomberg. This parameter could take the values "F" for the Fixed Income slot, "C" for the Currency slot, or "O" for the Oddbond slot. Your Bloomberg representative will tell you what Slot you should use.

SecurityId:

This is the actual identifier of the security that you want to add, delete, or modify in the monitor.

AccessType:

This is a number that specifies the identifier type in use. The most commonly used access types are 23 for Cusips, 33 for Isins, and 31 for Tickers. For a complete list of access types, please refer to Table 2.

MonitorId:

This is a unique number identifying the contributor's Bloomberg Monitor page. Your Bloomberg representative will provide this number to you.

MonitorNumber:

A numeric identifier dedicated to an individual Contributor per Monitor ID. Your Bloomberg representative will provide this number to you.

PageNumber (MonitorBenchmark sub only):

This is the page number, within that monitor, where you want the security to be added to/deleted from.

LineNumber (MonitorBenchmark sub only):

This is the row number, within that page, where you want the security to added to/deleted from.

LoadIndicator:

This 1-character field indicates what you want to do with the instrument. Use "A" to Add the security, use "D" to delete the security, and use "M" to Modify one of the text fields of a security already loaded in the monitor.

YellowKey:

This field specifies the type of Security or Yellow Key you are contributing.

The most commonly used Yellow Keys are "7" for US government bonds, "8" for any non US Government bonds, and "A" for currency tickers. For a complete list of yellow keys, please refer to Table 3.

SecurityShortName:

This 14-character optional field can be used to send a custom description for the instrument. If you chose not to send data in this field, the monitor will display the standard description of the instrument. In the case of bonds, that standard description is the ticker, coupon, and maturity

SecurityComment:

This is a 30-character optional text field. This field can be set to display in a monitor in any specific column.

BenchmarkSecurityId:

This is an optional field. If you are quoting in spreads, as opposed to prices or yields, you can use this field to send the actual identifier of the corresponding benchmark security.

BenchmarkAccessType:

This is a number that specifies the identifier type in use. The most commonly used access types are 23 for Cusips, 33 for Isins, and 31 for Tickers. For a complete list of access types, please refer to Table 2. You should only send data in this field if you are sending a BenchmarkSecurityId.

BenchmarkDescription:

This 20-character optional field can be used to send a custom description for the Benchmark. You should only send data in this field if you are sending a BenchmarkSecurityId.

Return Value

None. On failure this method will throw a `System.Runtime.InteropServices.COMException` that will provide the specific error code.

3. Sub MonitorFull(SecurityId As String, SecurityIdType As String, MonitorId As String, MonitorNumber As Long, PageNumber As Long, LineNumber As Long, YellowKey As String, AccessType As String)

4. Sub MonitorFullSortByMaturity(SecurityId As String, SecurityIdType As String, MonitorId As String, MonitorNumber As Long, YellowKey As String, AccessType As String)

`MonitorFull` and `MonitorFullSortByMaturity` allow you to add securities to a given monitor. The main difference with the `MonitorBenchmark` subs discussed above is that the `MonitorFull` formulas do not allow you to send data to the different text fields, including the benchmark information. As a result, the `MonitorFull` subs require fewer parameters than the `MonitorBenchmark` subs.

SecurityId:

This is the actual identifier of the security that you want to load in the monitor.

SecurityIdType:

This is the identifier type used in the previous field. In this case, you should spell out the identifier type in upper case (i.e. "CUSIP", "ISIN", "VALOREN", etc)

MonitorId:

This is a unique number identifying the contributor's Bloomberg Monitor page. Your Bloomberg representative will provide this number to you.

MonitorNumber:

A numeric identifier dedicated to an individual Contributor per Monitor ID. Your Bloomberg representative will provide this number to you.

PageNumber (MonitorFull sub only):

This is the page number, within that monitor, where you want the security to be added.

LineNumber (MonitorFull sub only):

This is the row number, within that page, where you want the security to added.

YellowKey:

This field specifies the type of Security or Yellow Key you are contributing.

In this case, you should spell out the yellow key in proper case. You should use "Govt" for US government bonds, "Corp" for non-US government bonds, "Curncy" for currency objects, and "Mtge" for mortgages.

AccessType:

This is a number that specifies the identifier type in use. The most commonly used access types are 23 for Cusips, 33 for Isins, and 31 for Tickers. For a complete list of access types, please refer to Table 2.

Return Value

None. On failure this method will throw a System.Runtime.InteropServices.COMException that will provide the specific error code.

5. ClearMonitor(MonitorId As String, MonitorNumber As Long)

ClearMonitor allows you to remove all the securities in a monitor with a single action. The parameters of this formula are:

MonitorId:

This is a unique number identifying the contributor's Bloomberg Monitor page. Your Bloomberg representative will provide this number to you.

Monitor Number:

A numeric identifier dedicated to an individual Contributor per Monitor ID. Your Bloomberg representative will provide this number to you.

Return Value

None. On failure this method will throw a System.Runtime.InteropServices.COMException that will provide the specific error code.

Table 1 – Transaction Types

| |
|------------|
| Bid |
| Ask |
| Trade |
| BidSize |
| AskSize |
| Size |
| BidYield |
| AskYield |
| BidSpread |
| AskSpread |
| BidYldSprd |
| AskYldSprd |
| TradeSprd |
| MidYldSprd |
| BidYldSize |
| AskYldSize |
| Benchmark |

Table 2 - Access Type

| | | | | | |
|----|-------------------|----|----------------|----|--------------------------|
| 01 | CINS | 13 | Danish | 27 | Belgian Loan |
| 02 | Sedol 1 | 14 | Austrian | 28 | UK Epic Code |
| 03 | Sedol 2 | 15 | Luxembourg | 29 | Hong Kong |
| 04 | Euro Clear Number | 16 | Misc. Domestic | 30 | Equity Ticker & Exchange |
| 05 | Cedel | 17 | Norway | 31 | Ticker |
| 06 | Valoren | 18 | Euro Com | 32 | Tokyo Special |
| 07 | Wertpap | 20 | Italy | 33 | New ISIN |
| 08 | ISIN | 21 | Sweden | 35 | TBA Mortgage Security |
| 09 | Japanese | 22 | Japan Company | 99 | Clear Page |
| 10 | French | 23 | CUSIP | | |
| 11 | Belgian | 24 | Spain | | |
| 12 | Dutch | 26 | Singapore | | |

Table 3 - Bloomberg Yellow Keys

| | |
|---|--------|
| 1 | CMDTY |
| 2 | EQUITY |
| 3 | MUNI |
| 4 | PFD |
| 5 | CLIENT |
| 6 | M-MKT |
| 7 | GOVT |
| 8 | CORP |
| 9 | INDEX |
| A | CRNCY |
| B | MTGE |



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