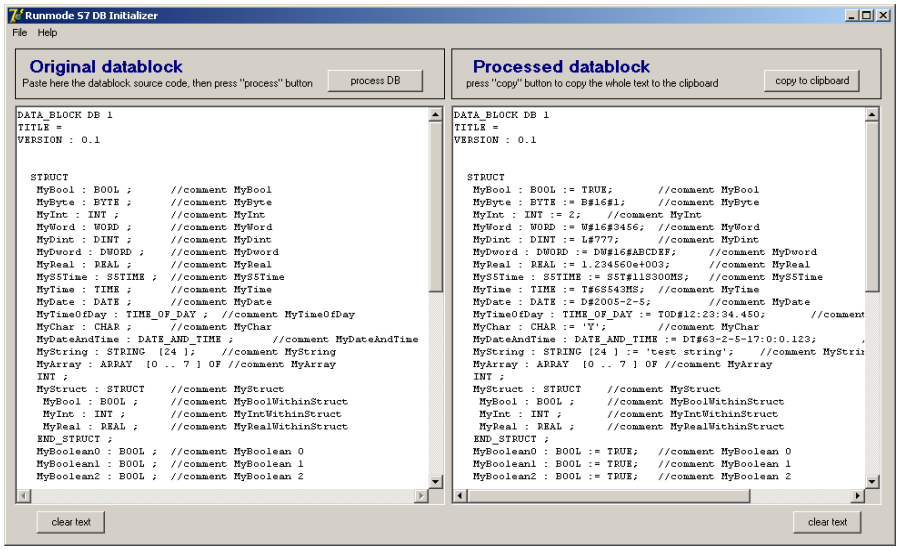
RUNMODE

S7 DATABLOCK INITIALIZER

for SIEMENS SIMATIC S7-300/S7-400 PLCs



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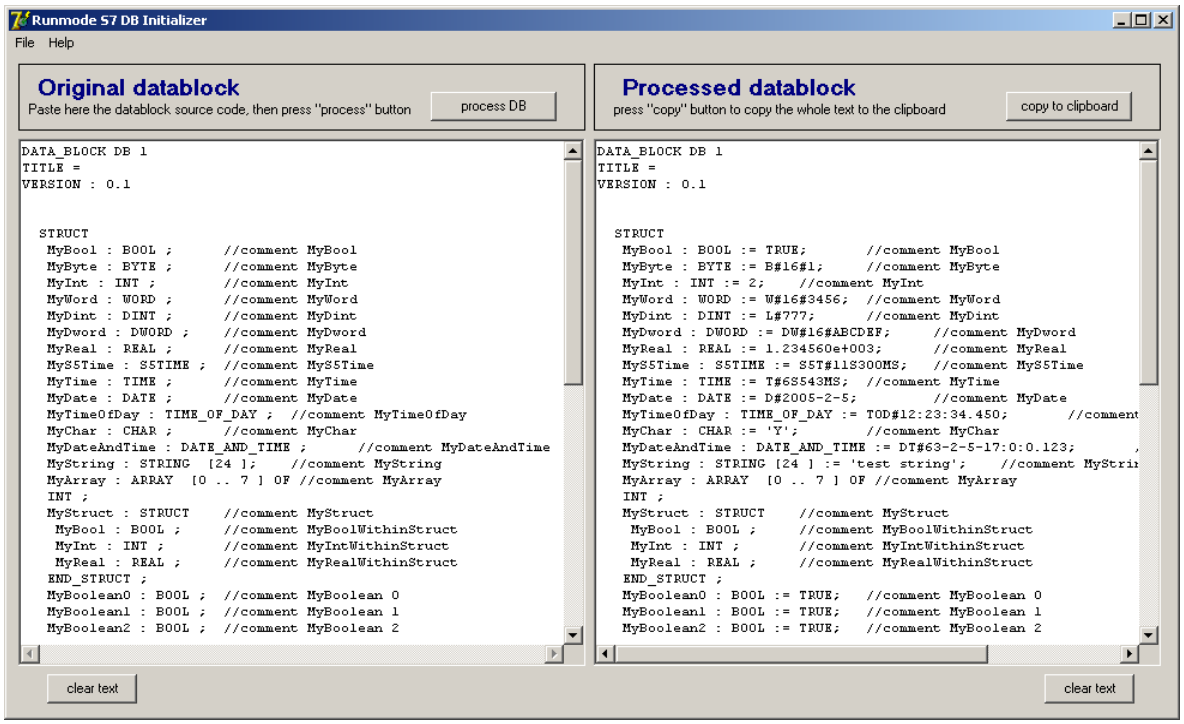
S7 DB Initializer concepts

When a datablock is created, the programmer can assign an “initial value” to each variable. The S7 editor, when the datablock is first saved (or manually reinitialized), will set current value of each variable with the value contained in the “initial value” field. The feature is useful to create an initial set of values, but once a program is tested and commissioned it would be useful to save the current values as initial values, so to easily recreate a more realistic default content of the datablock. Unfortunately, the Step7 editor does not provide a reverse flow of data from current values to initial values, so that all initial values must be manually typed again.

The Runmode S7DBinitializer program does the job automatically, processing a datablock source (text) and generating an updated source to be compiled using the Step7 editor.



How to proceed

The process is fairly simple:

1. Run the S7 Manager, open the LAD/STL/FBD editor and create the source code of the datablock you want to process
2. In the LAD/STL/FBD editor, open the datablock source file, select all the text and copy it into the Windows’ clipboard
3. Run the S7DBinitializer and paste the source code in the “original DB” panel
4. Press “process” button
5. The content of the “processed DB” panel will be cleared and then filled with a processed copy of the source datablock. In the processed source, all variables

will be set to an initial value based upon the current values of the source datablock.

6. Press the “copy to clipboard” button to copy the processed source into the clipboard
7. Open the LAD/STL/FBD application and paste the clipboard contents to the editor.
8. Compile the datablock
9. All done

Sample datablock source before S7DBinitializer processing

```
DATA_BLOCK DB 1
TITLE =
VERSION : 0.1


  STRUCT
   MyBool : BOOL ;                        //comment MyBool
   MyByte : BYTE ;                        //comment MyByte
   MyInt : INT ;                          //comment MyInt
   MyWord : WORD ;                        //comment MyWord
   MyDint : DINT ;                        //comment MyDint
   MyDword : DWORD ;                      //comment MyDword
   MyReal : REAL ;                        //comment MyReal
   MyS5Time : S5TIME ;                    //comment MyS5Time
   MyTime : TIME ;                        //comment MyTime
   MyDate : DATE ;                        //comment MyDate
   MyTimeOfDay : TIME_OF_DAY ;            //comment MyTimeOfDay
   MyChar : CHAR ;                        //comment MyChar
   MyDT : DATE_AND_TIME ;                 //comment MyDateAndTime
   MyString : STRING  [24 ];              //comment MyString
   MyArray : ARRAY  [0 .. 7 ] OF          //comment MyArray
   INT ;
   MyStruct : STRUCT                      //comment MyStruct
    MyBool : BOOL ;                       //comment MyBoolWithinStruct
    MyInt : INT ;                         //comment MyIntWithinStruct
    MyReal : REAL ;                       //comment MyRealWithinStruct
   END_STRUCT ;
   MyBoolean0 : BOOL ;                    //comment MyBoolean 0
   MyBoolean1 : BOOL ;                    //comment MyBoolean 1
   MyBoolean2 : BOOL ;                    //comment MyBoolean 2
  END_STRUCT ;
BEGIN
   MyBool := TRUE;
   MyByte := B#16#1;
   MyInt := 2;
   MyWord := W#16#3456;
   MyDint := L#777;
   MyDword := DW#16#ABCDEF;
   MyReal := 1.234560e+003;
   MyS5Time := S5T#11S300MS;
   MyTime := T#6S543MS;
   MyDate := D#2005-2-5;
   MyTimeOfDay := TOD#12:23:34.450;
   MyChar := 'Y';
   MyDateAndTime := DT#63-2-5-17:0:0.123;
   MyString := 'test string';
   MyArray[0] := 0;
   MyArray[1] := 1;
   MyArray[2] := 2;
   MyArray[3] := 3;
   MyArray[4] := 4;
   MyArray[5] := 5;
   MyArray[6] := 6;
   MyArray[7] := 7;
   MyStruct.MyBool := TRUE;
   MyStruct.MyInt := 1234;
   MyStruct.MyReal := 5.698700e+001;
   MyBoolean0 := TRUE;
   MyBoolean1 := TRUE;
   MyBoolean2 := TRUE;
END_DATA_BLOCK
```

Sample datablock source after S7DBinitializer processing

```
DATA_BLOCK DB 1
TITLE =
VERSION : 0.1


  STRUCT
   MyBool : BOOL := TRUE;                                  //comment MyBool
   MyByte : BYTE := B#16#1;                                //comment MyByte
   MyInt : INT := 2;                                       //comment MyInt
   MyWord : WORD := W#16#3456;                             //comment MyWord
   MyDint : DINT := L#777;                                 //comment MyDint
   MyDword : DWORD := DW#16#ABCDEF;                        //comment MyDword
   MyReal : REAL := 1.234560e+003;                         //comment MyReal
   MyS5Time : S5TIME := S5T#11S300MS;                      //comment MyS5Time
   MyTime : TIME := T#6S543MS;                             //comment MyTime
   MyDate : DATE := D#2005-2-5;                            //comment MyDate
   MyTimeOfDay : TIME_OF_DAY := TOD#12:23:34.450;          //comment MyTimeOfDay
   MyChar : CHAR := 'Y';                                   //comment MyChar
   MyDT : DATE_AND_TIME := DT#63-2-5-17:0:0.123;           //comment MyDateAndTime
   MyString : STRING [24 ] := 'test string';               //comment MyString
   MyArray : ARRAY  [0 .. 7 ] OF                           //comment MyArray
   INT ;
   MyStruct : STRUCT                                       //comment MyStruct
    MyBool : BOOL ;                                  //comment MyBoolWithinStruct
    MyInt : INT ;                                    //comment MyIntWithinStruct
    MyReal : REAL ;                                  //comment MyRealWithinStruct
   END_STRUCT ;
   MyBoolean0 : BOOL := TRUE;                              //comment MyBoolean 0
   MyBoolean1 : BOOL := TRUE;                              //comment MyBoolean 1
   MyBoolean2 : BOOL := TRUE;                              //comment MyBoolean 2
  END_STRUCT ;
BEGIN
   MyBool := TRUE;
   MyByte := B#16#1;
   MyInt := 2;
   MyWord := W#16#3456;
   MyDint := L#777;
   MyDword := DW#16#ABCDEF;
   MyReal := 1.234560e+003;
   MyS5Time := S5T#11S300MS;
   MyTime := T#6S543MS;
   MyDate := D#2005-2-5;
   MyTimeOfDay := TOD#12:23:34.450;
   MyChar := 'Y';
   MyDateAndTime := DT#63-2-5-17:0:0.123;
   MyString := 'test string';
   MyArray[0] := 0;
   MyArray[1] := 1;
   MyArray[2] := 2;
   MyArray[3] := 3;
   MyArray[4] := 4;
   MyArray[5] := 5;
   MyArray[6] := 6;
   MyArray[7] := 7;
   MyStruct.MyBool := TRUE;
   MyStruct.MyInt := 1234;
   MyStruct.MyReal := 5.698700e+001;
   MyBoolean0 := TRUE;
   MyBoolean1 := TRUE;
   MyBoolean2 := TRUE;
END_DATA_BLOCK
```

Requirements

- Runmode S7DBinitializer is a 32 bit application for Microsoft Windows 95/98/ME/NT/2000/XP.

Features and limitations

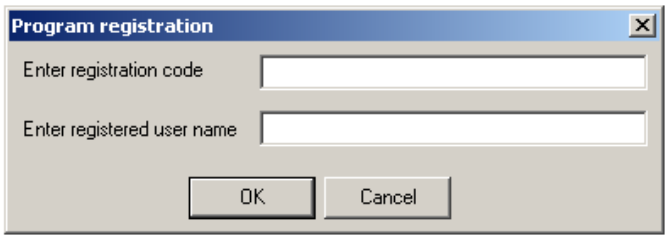
- Initial value process will apply to the following variable types: BOOL, BYTE, CHAR, INT, DINT, WORD, DWORD, REAL, TIME, S5TIME, DATE, TIME_OF_DAY, DATE_AND_TIME.
- ARRAY and variables assigned within STRUCT or by UDT types will be not processed.
- Only a datablock can be processed at a time. Multiple datablocks must be processed separately

Installation of S7 DB Initializer

The S7DBinitializer does not need installation; just copy all the files to a folder of your choice.

Registering S7 DB Initializer

Select “register” form the “Help” menu and insert the registration data when asked to. Please note that registration data is case-sensitive, make sure to enter the text exactly as received by email, avoiding possible leading or trailing blanks.



Version history

Version 1.0.0 Initial commercial release

Author's notes

Please report any bug or suggestion to the author:

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