

Data Structures

Declarations, Dependencies and Usages: Now everything at a Glance

AMELIO Logic Discovery provides extensive data structure analyses for COBOL, PL/I and Delta ADS applications. With the new presentation of the analysis results, the knowledge about your data structures, their declaration, usage and dependencies is now available at a glance.

All about your data structures

To understand an application, it is necessary to understand the contained data structures, their declaration, provenance, usage and dependencies. To obtain this knowledge, an in-depth analysis of all involved source code modules is essential. For that reason AMELIO Logic Discovery provides extensive data structure analyses for COBOL, PL/I and ADS applications. They answer questions like

Declaration

- How is the data structure declared? What is the type and size of it?
- Where has the data structure been declared? Was it declared in the program itself or in a copybook, include module or macro?

The screenshot shows a source code window with COBOL data structure definitions and a corresponding Data Definition Usage table.

Name	Type	Size	Exp. Line	Copybook	Orig. Line
01 TPSTATUS-REC		264	78		78
05 APPL-RETURN-CODE	native binary (9)	4	80	RETICODES	1
05 APPL-SUB-CODE	native binary (9)	4	81	RETICODES	2
05 APPL-MSG-CODE	character (256)	256	82	RETICODES	3
01 LOGMSG		56	87		83
05 FILLER	character (6)	6	88		84
05 LOGMSG-TEXT	character (50)	50	89		85
01 LOGMSG-ERR	redefines LOGMSG	56	90		86

... and specifically for PL/I

- Which type and size have implicitly declared structures or structures whose declarations have been abbreviated by using factoring?
- If a structure is declared multiple times, which declaration is valid in which context?

The screenshot shows a Data Definition Usage table and a Source code window for PL/I data structures.

Name	Type	Declared in	Line
1 A1			53
2 A	[3, 2] binary fixed (15)	DO_USERLOG	54
2 B	[3, 2] binary fixed (15)	DO_USERLOG	56
2 C	[3, 2] binary fixed (15)	DO_USERLOG	69
2 D	[3, 2] binary fixed (15)	DO_USERLOG	84
1 INFOLOGMSG		DO_USERLOG	331
5 *	character (6)	DO_USERLOG	332
5 LOGMSG-TEXT	character (40)	DO_USERLOG	333
5 *	character (34)	DO_USERLOG	334
LOGMSG-TEXT	character (40)	READ_FILE	418

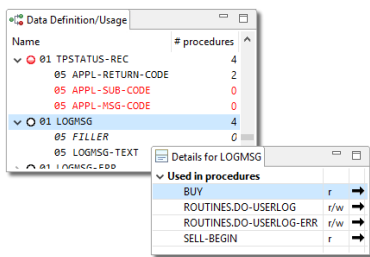
Usage

- In which paragraphs and procedures the data structure is accessed?
- Is the structure read-only or also modified?
- Is an element or a structure used at all?

AMELIO LOGIC DISCOVERY



- Is the complete structure used or only single elements from it?



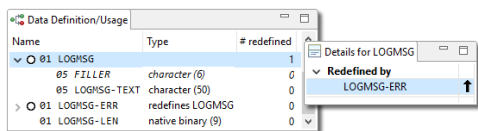
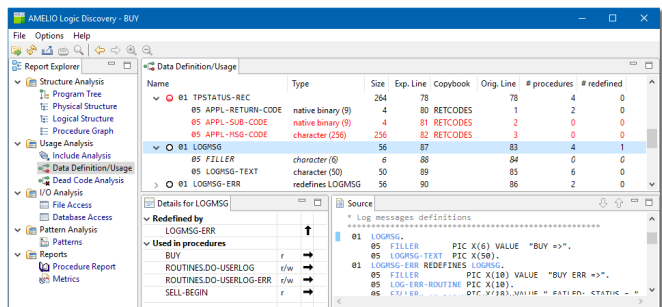
- Is there a pointer to the structure?

... and now everything at a glance

To understand data structures it is necessary to know its declarations as well as its usage and dependencies. That's why we have summarised both perspectives "Data Definition" and "Data Usage" in one comprehensive perspective.

Dependencies

- What are the relationships between the structures?
- Is the structure redefined?



In this way the entire knowledge about your data structures is available at a glance.

The new AMELIO Logic Discovery version: Available now!

The display of the analysis results is now even more clearly. In this way you understand your data structures more quickly. See for yourself!

You don't use AMELIO Logic Discovery yet? We would be glad to show you the possibilities of the tool, preferably with your own sources.

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