Learn ABAP in 1 Day

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Chapter 1: Introduction to ABAP: Datatypes, Operators & Editor - Tutorial

ABAP stands for - Advanced Business Application Programming. It is a programming language for developing applications for the SAP R/3 system.

The latest version of ABAP is called ABAP Objects and supports object-oriented programming. SAP will run applications written using ABAP/4, the earlier ABAP version, as well as applications using ABAP Objects.

Without further adieu , lets dive into ABAP.

Note, this tutorial will not go into extensive details on ABAP language constructs (which become very boring to read) but quickly introduce key concepts to get you started so you can focus your attention on more important topics.

Data Types

Syntax to declare a variable in ABAP -

```
DATA Variable_Name Type Variable_Type
```

Example:

```
DATA employee_number Type I.
```

The following is a list of Data Types supported by ABAP

Data Type	Initial field length	Valid field length	Initial value	Meaning
Numeric types				
I	4	4	0	Integer (whole number)
F	8	8	0	Floating point number
P	8	1 - 16	0	Packed number
Character types				
C	1	1 - 65535	' ... '	Text field(alphanumeric characters)
D	8	8	'00000000'	Date field(Format: YYYYMMDD)
N	1	1 - 65535	'0 ... 0'	Numeric text field(numeric characters)
T	6	6	'000000'	Time field(format: HHMMSS)
Hexadecimal type				
X	1	1 - 65535	X'0 ... 0'	Hexadecimal field

Processing Data - Assigning Values

```
a=16.

move 16 to a.

write a to b.
```

- Arithmetic Operations

```
compute a = a*100.
```

Control Statements

Following control statements can be used - - If ... EndIf Loop

```
if [not] exp [ and / or [not] exp ].
```

```
.........
[elseif exp.
.......]
[else.
.......]
Endif.
```

- Case statement

```
Case variable.
when value1.
.........
when value2.
.........
[ when others.
.........]
Endcase.
Do.
```

-While loop

```
While <logical expression>.
.....
.....
Endwhile.
```

- Do loop

```
Do <n> times.
.....
.....
Enddo.
```

Logical Operator

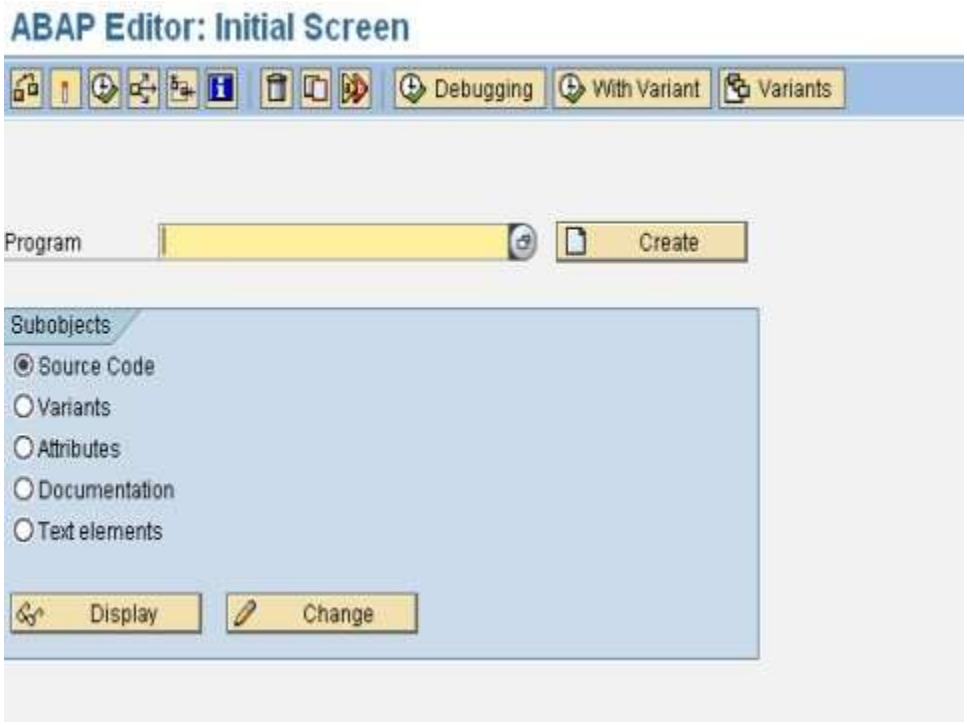
A list of logical operators

- GE or >=

- GT or > LE
- or <= LT
- or < EQ or
- = NE or <>
-

ABAP/4 Editor

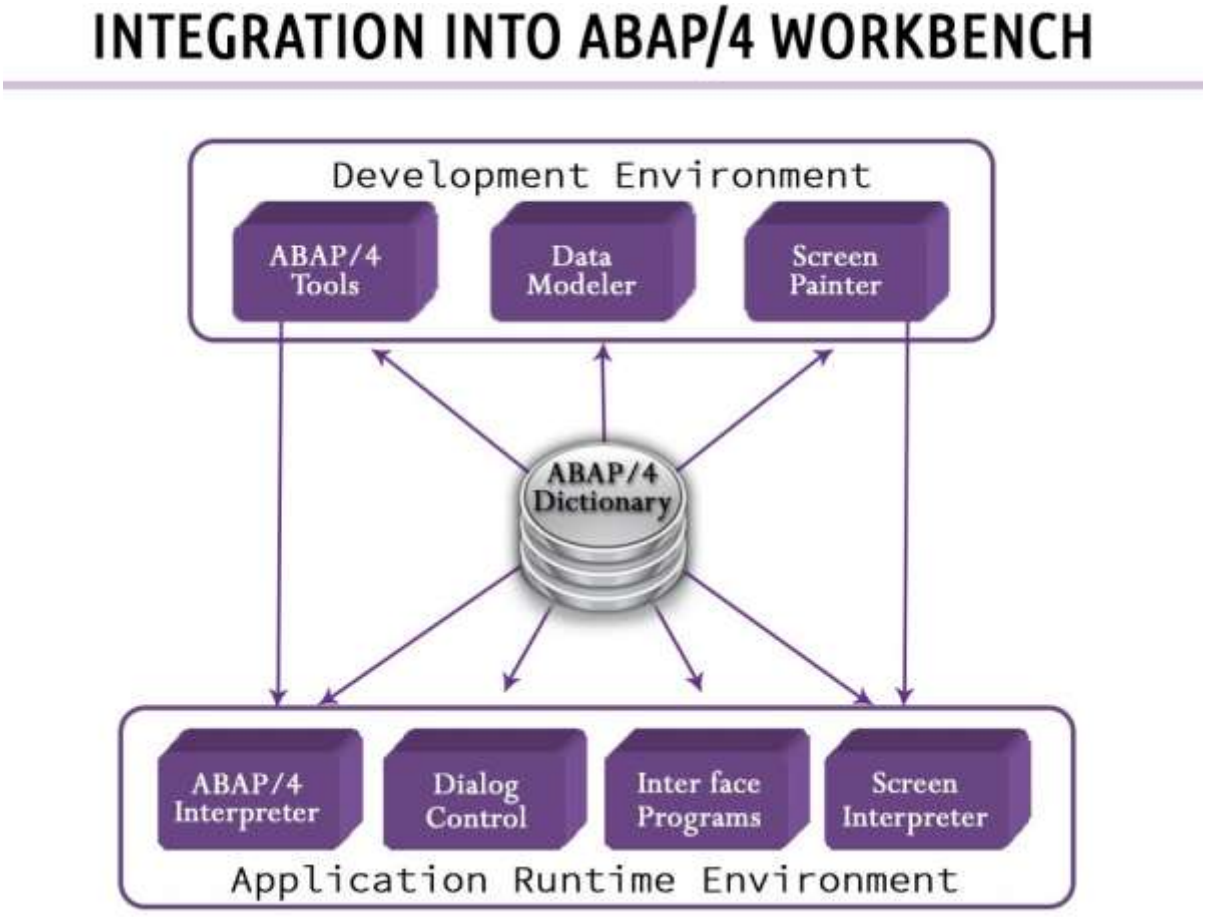
Finally , here is where you will spent most of your time as a developer creating / modifying programs. Transaction **SE38**



Chapter 2: ABAP Data Dictionary Tutorial SE11: Table, Lock Object, View & Structure

What is Data Dictionary?

Data Dictionary is a central source of information for the data in a information management system. Its main function is to support the creation and management of data definitions (or "metadata").



ABAP Dictionary 3 levels

Objects in the ABAP Dictionary resided on three levels that support their re-usability. These levels are:

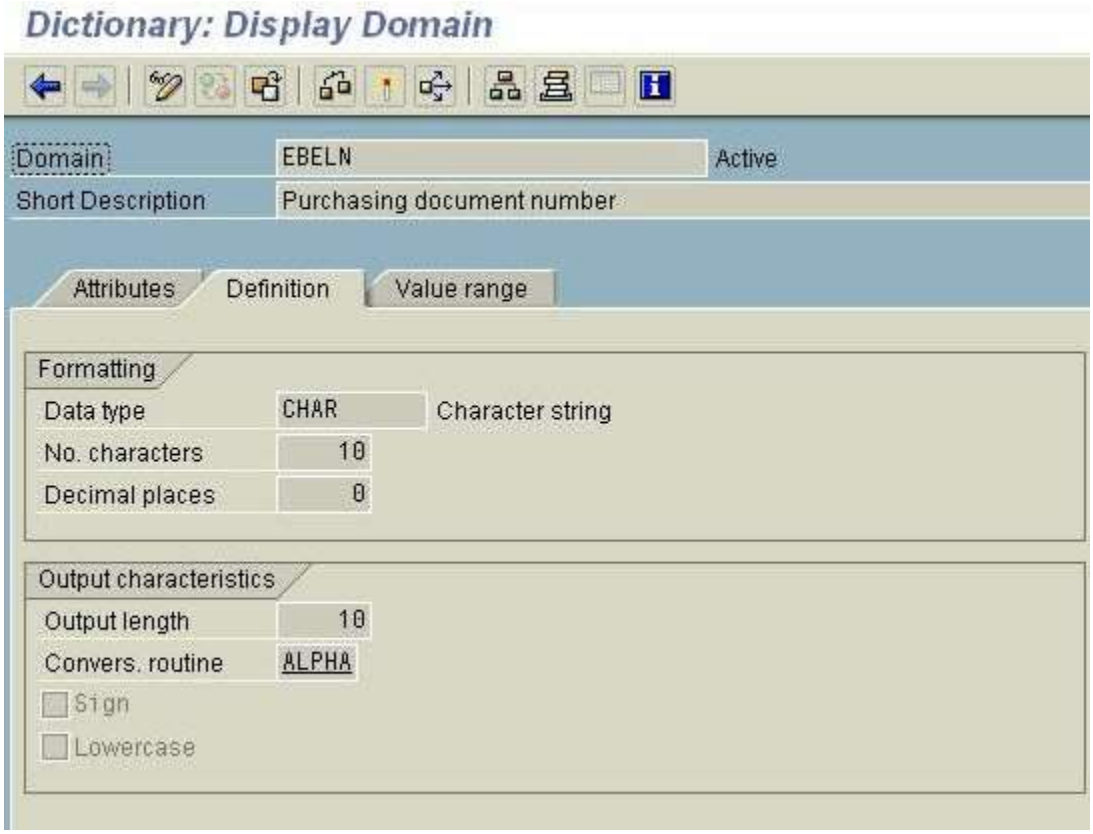
1. Tables and structures
2. Data elements
3. Domains

Lets look into them in detail -

Domains

- Describes the technical characteristics of a table field
- Specifies a value range which describes allowed data values for the fields
- Fields referring to the same domain (via the data elements assigned to them) are changed when a change is made to the domain
- Ensures consistency

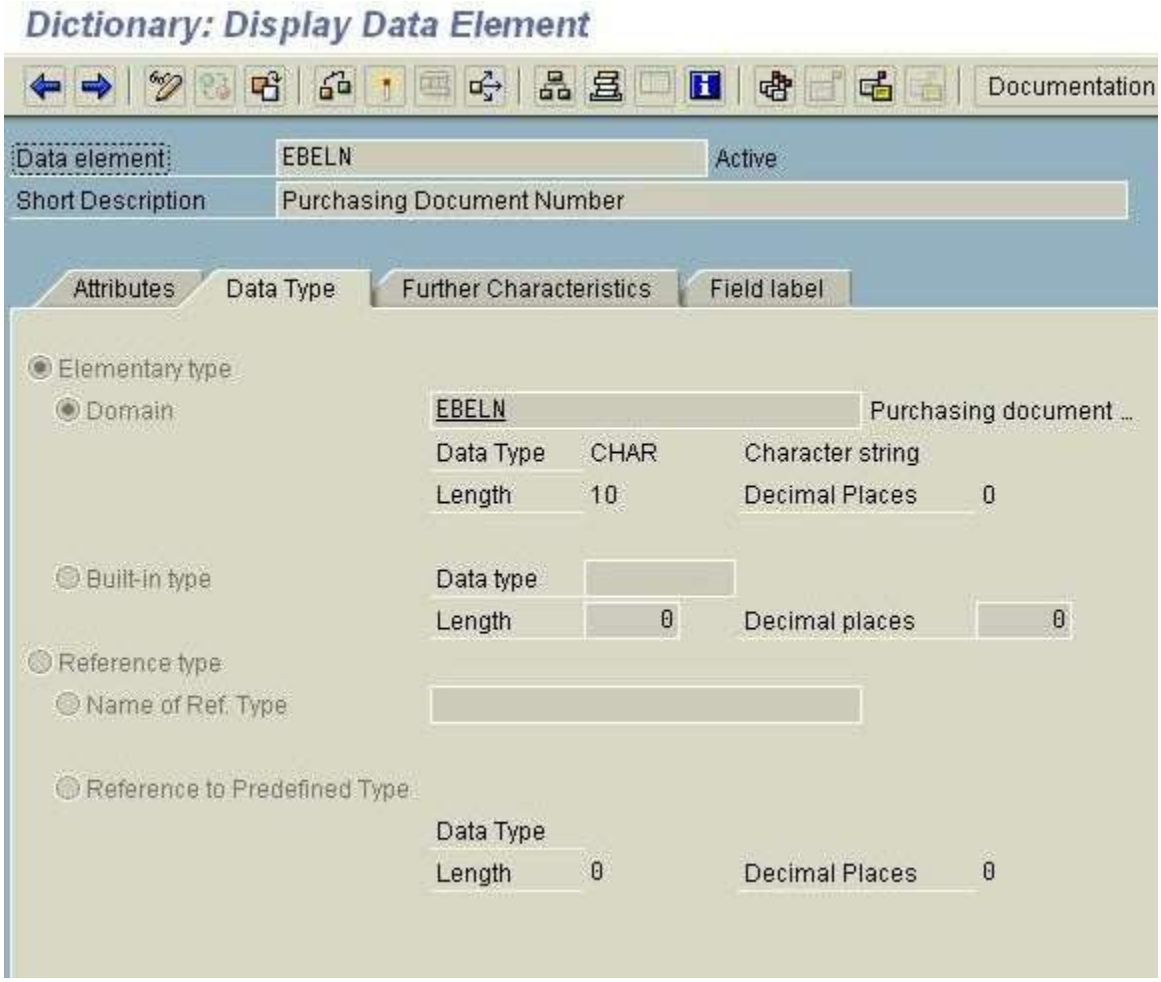
Ex. Purchasing document number (EBELN)



Data Elements

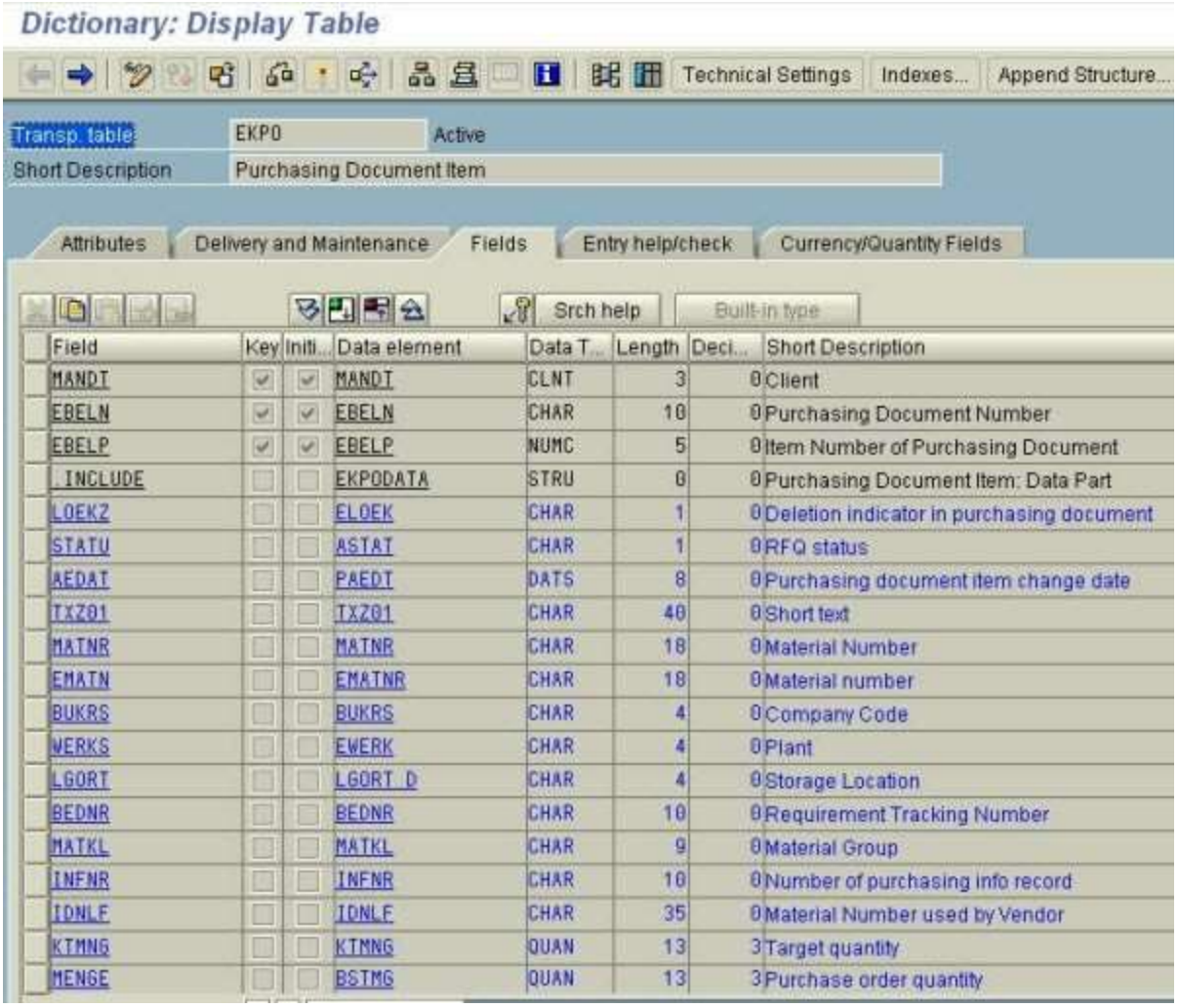
- Describes the role played by a field in a technical context Fields of
- same semantic meaning can refer to the same data element
- Contains the field information

Ex. Purchasing document number (EBELN)



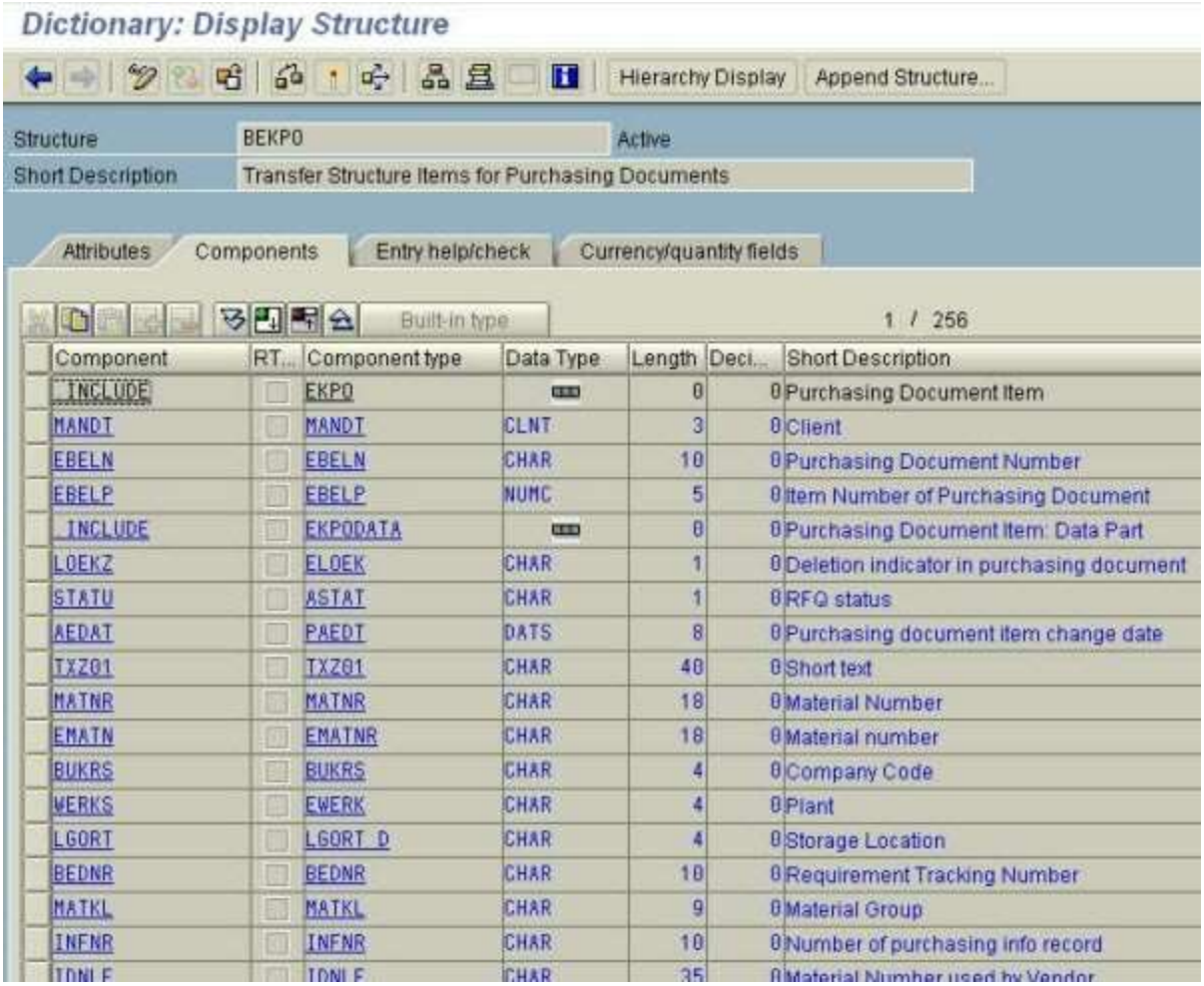
Tables

- Represent the Database Tables where data actually resides. Tables can
- be defined independently of the database in the ABAP Dictionary.
- The fields of the table are defined with their (database- independent) SAP ABAP data types and lengths.



Structures

- Are record declarations that do NOT correspond to a Database Table.
- Just like user-defined data type.
- Defined like a table and can then be addressed from ABAP programs.
- Structures contain data only during the runtime of a program.



Aggregated Objects of ABAP Dictionary

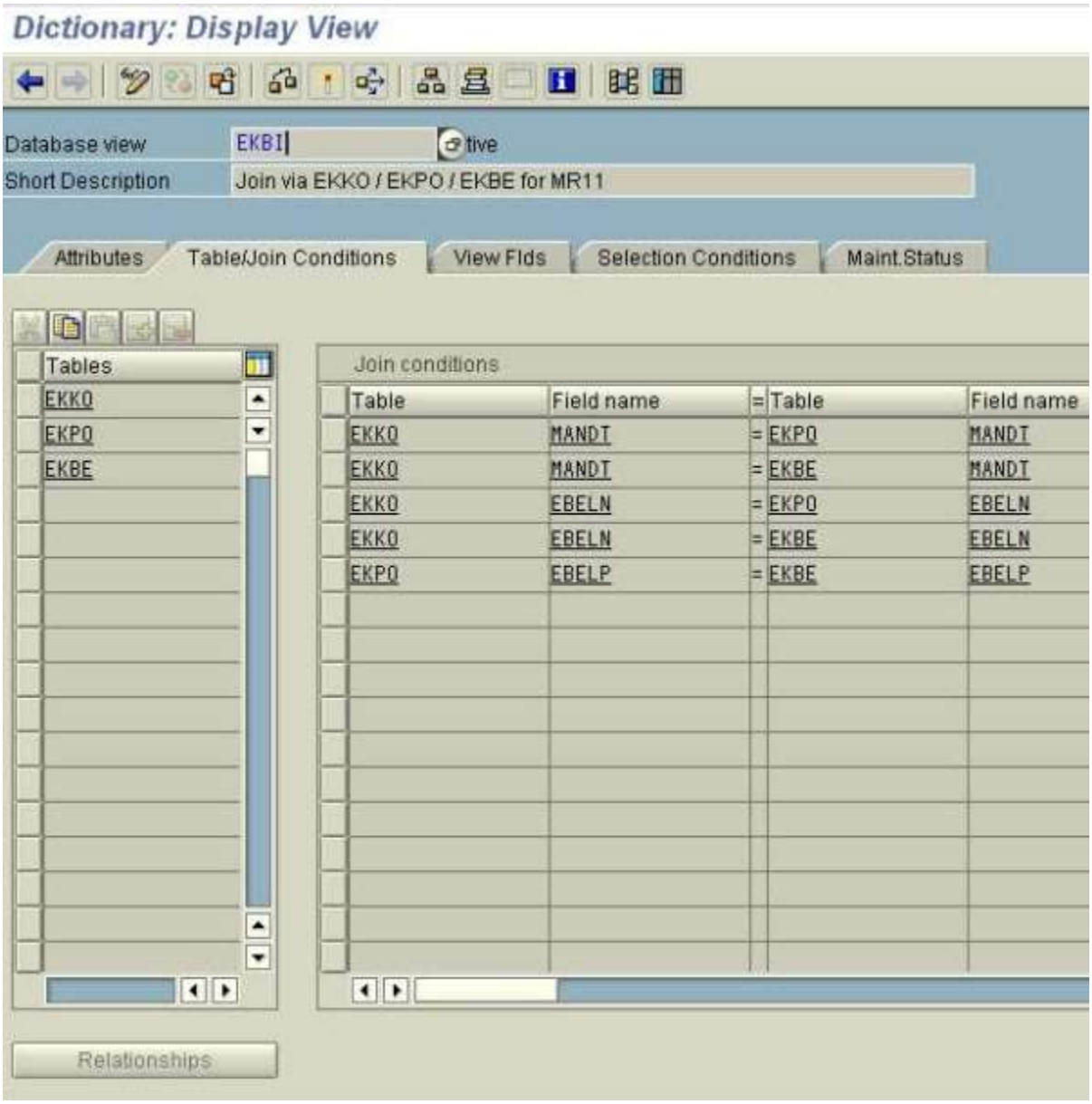
Aggregated means consisting of several components. In the ABAP Dictionary, aggregated objects are objects which come from several different transparent tables.

1. Views
2. Search Help
3. Lock Objects

Lets look into them in detail

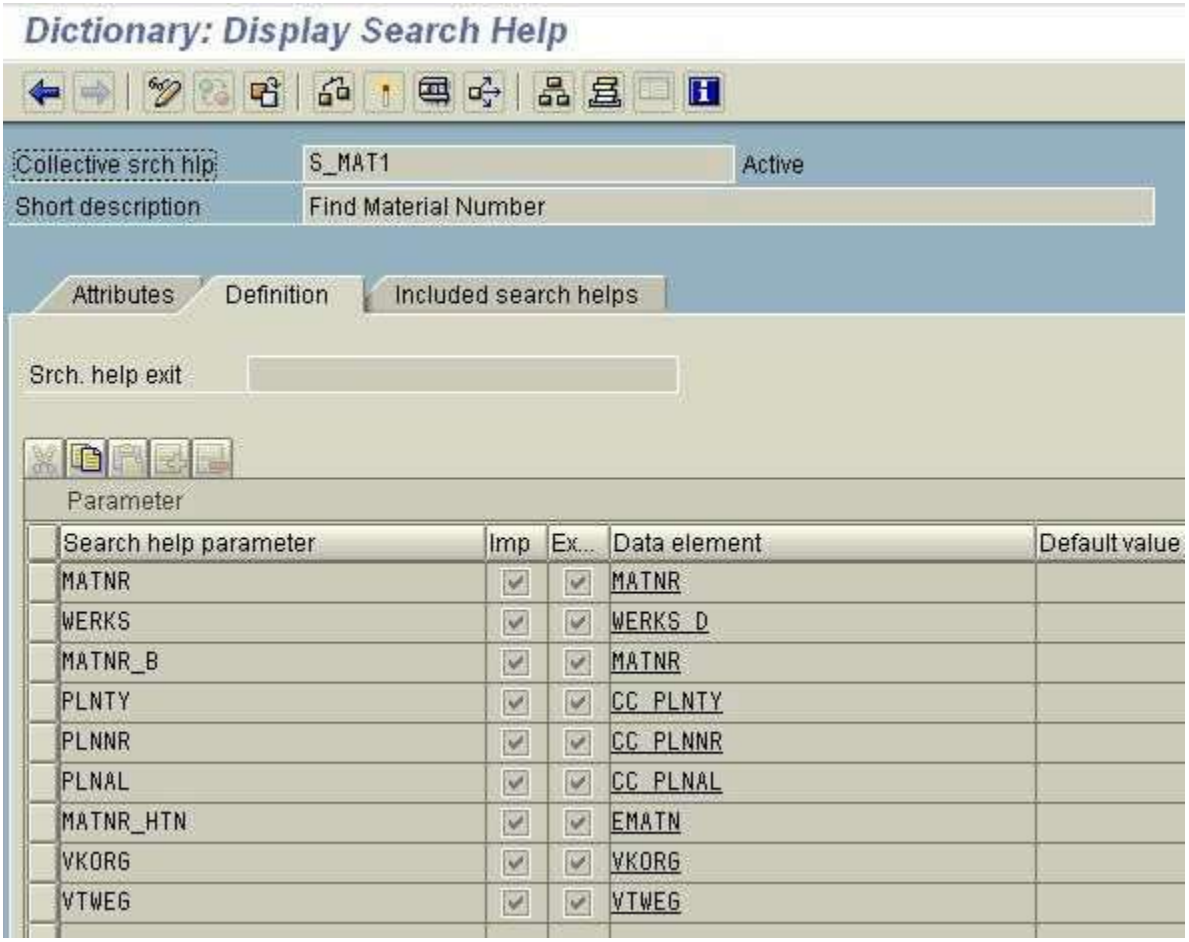
Views

- Views in SAP _ ABAP are used to summarize data which is distributed among several tables
- The data of a view is not actually physically stored. The data of a view is instead derived from one or more other tables
- It is tailored to the needs of a specific application



Search Help

- A Search help is a tool to help you search for data records in the system
- An efficient and user-friendly search assists users where the key of a record is unknown

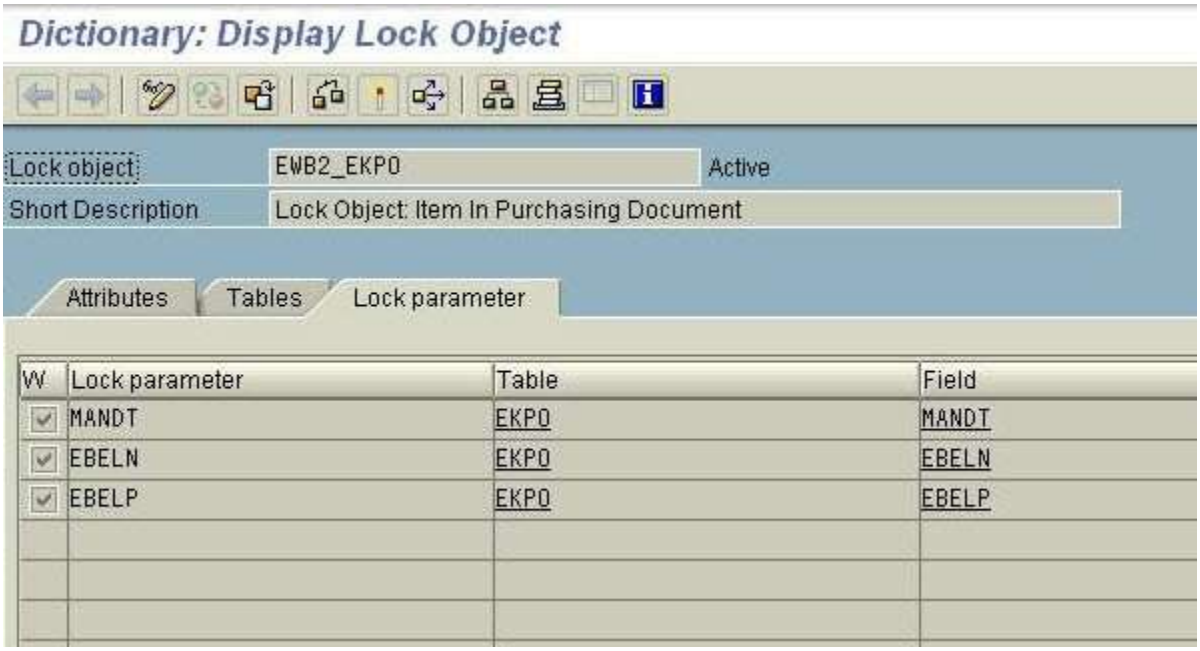


Lock Objects

- Simultaneous accessing of the same data record by two users in the SAP system is synchronized by a lock mechanism.
- Locks are set and released by calling certain function modules.

These function modules are generated automatically from the definition of so-called lock objects in the ABAP/4 Dictionary

Function modules : Enqueue_<obj name> - to lock the table dequeue_<obj name> - to release the lock



Important Transactions

- SE11 : Data Dictionary Initial Screen (SE12 Display only) SE13 :
- ABAP Dictionary : Technical Settings
- SE14 : Database Utility
- SE15 : Repository Information System SE16 :
- Data Browser
- SE17 : General table Display SE55 :
- Table View Maintenance SM30 :
- Table Maintenance