

ABAP Structure

BY

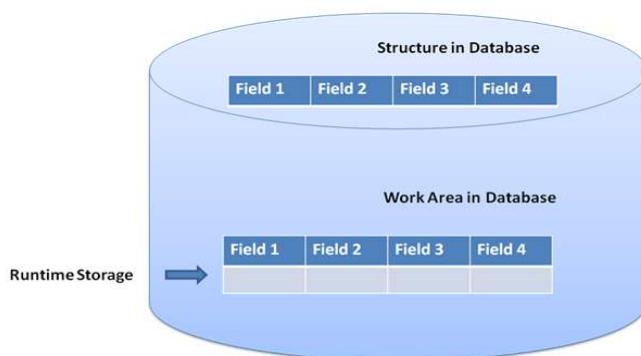
TAPAS KUMAR CHOUDHURY

Structure in SAP ABAP

- When you read this word “**STRUCTURE**”, what is the first thing that comes into your mind? Is it a structure of a building, a structure of a bridge or a structure of a compound or Structure in SAP ABAP?
- These are what I found in Microsoft Word Clip Arts. From these images it is clear that structure is something that is not the final product or final output but it is something that helps us to get the final output.
- In SAP ABAP or in any other languages, structure is a group of fields grouped under one name. These fields can have different data types and different lengths. These structures can be reused. These structures can even have a structure as a field called as Nested structure.

Definition

- A Structure in SAP ABAP is a part of group **TYPES** in SE11, which consists components that also, refer to a type.
- In simple terms, a structure is a reusable component that contains fields and holds single records at runtime.



Features:

- A structure is an array of fields.
- A **work area** is also a structure which holds single data at runtime and has pre allocated memory in database.
- When we create a structure using TYPES statement in ABAP report, no memory is allocated in database. It is allocated when we define a work area of type Structure.
- A Global structure is the one we create using SE11 ABAP Dictionary and a Local Structure is the one we declare in ABAP report using keyword

```
TYPES: BEGIN OF XYZ,
        Field1 TYPE c,
        Field2 TYPE c,
        END OF XYZ.
```
- The main purpose of Structure is to define the data at screen interface [e.g. ODATA Interface, ABAP GUI Interface & ABAP Module Pool Interface] and type for Interface Parameters of Classes and Function Modules.
- A structure can also be included in a table.[only Flat Structures]

Types of Structure in SAP ABAP

- On the basis of type of fields/components of structure, there are three types of Structure:

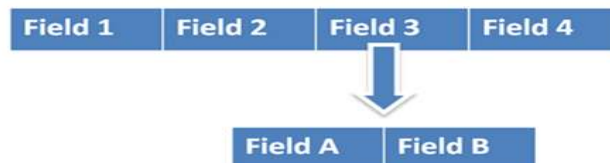
1. Flat Structure in SAP ABAP:

- As the name suggests, flat structure are the one that contains fields simply pointing to a Data Element or a predefined data type.
- For example, we have four simple fields as shown below:



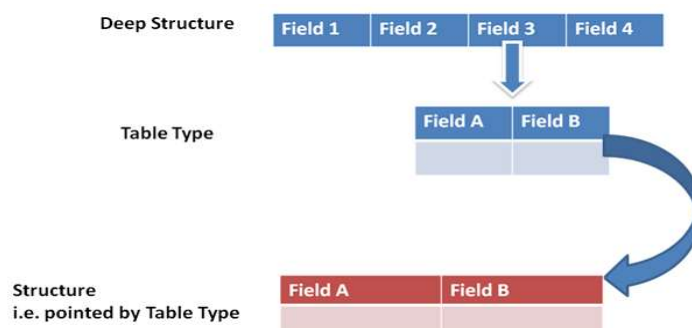
2. Nested Structure in SAP ABAP:

- As the name suggests, nested structure are the one that contains at least one field pointing to another structure.
- *NOTE:** A structure can be nested to any depths.



3.Deep Structure in SAP ABAP:

- Deep structures are the one that contains at least one field pointing to table type. Table Type itself points to a structure or a table. That's why these are called deep structures.



In above example we can see that Deep structure has a field pointing to a Table Type and the table type itself is pointing to a structure.

***NOTE:** We can include only Flat structures in table.

Creation of Structure in SAP ABAP:

- **#Using ABAP Dictionary**
- **Step 01:** Open SE11.
- **Step 02:** Click **Data Type** Radio Button and select Structure radio button from the given radio buttons. Give your Structure name starting with Z or Y e.g. "ZBarry_struct".
- **Step 03:** Click Create, Enter explanatory description for structure in Short Description e.g. "Structure for Test".
- **Step 04:** In the components tab, maintain the following: