

## How to save the TMG in TR?

A. While creating TMG we have to click RadioButton standard recording.

## If you want to add some field while creating entry for TMG?

A. By using TMG events, create new entry

## How to add additional fields for BAPI?

A. We can use BAPI Extension Concept.

## How to use BAPI Extension Concept?

A. For example we have structure CT\_EICKOBB. This includes in both Database table and BAPI extension.

2. We have to add fields in this structure.

3. We have to pass the data to the container in the program level.

4. Assign that container to Extension table for BAPI.

5. How to control the sequence of a BADI implementation?

A. By using Badi-Sorter technique we can achieve this.

## New syntax use

1. Value keyword is used to avoid the loop.

2. Inline Declaration is used to avoid the declaration part.

3. For is a keyword to declare work area on the flew.

4. Let is a keyword to declare a variable on the flew.

5. Importing → To receive the information

Exporting → To send the information (Multiple parameters)

Changing → To ~~send~~ <sup>receive</sup> the value and update <sup>some value</sup> then again send that information

Return → To send some information (single parameter)

7. What is watchpoint in DBug?

A. Watchpoint used to stop the Debugging point at particular variable.

8. How to create watchpoint?

A. Click watchpoint and give the variable name.  
We can create the watch point only for Variable, or work area field note for internal table.

## 9. Types of Breakpoints?

A. Session and external breakpoint.

Q. What is session & external breakpoint?

A. Session breakpoint is only for that session only. Once once you come out from that session then it won't call. But external point will call up to 2 hours.

10. How to D Bug pop-up window?

11. We have to prepare text file which should contain [function] command = 14

Title = debugger

Type = systemCommand

then drag and drop the file into pop-up window, it enables Dbug mode.

11. Diffr b/w static & instance.

static

instance

1. We can access static attributes and method by using class or objects.

1. We can access instance attributes and method only through object.

2. For example:

if we declare

2. But in instance

class = 10,

if obj1 = 10,

obj1 = 20,

obj2 = 20.

obj2 = 30.

if you try to print

if you try to print the

obj1 the value will be

obj1 also the value

10 only.

will be = 30 only

## Reports :

### 1. Events in Reports : classical

- i) initialization , 2) At Selection Screen,
- 3) At selection screen on . 4) start of selection.
- 5) end of selection , 6) Top of page , 7) end of page .

**1. Initialization :** It is an event which is triggered before displaying the selection screen.  
**Adv :** It is used to provide the default values to the selection screen.

**2.) At selection Screen:** It is an event which is triggered after provide the input to the screen and before leaving the selection screen.

**Adv :** This is used to validate the given input.

**3. At selection screen on :** It is an event which is triggered at the selection screen based on particular input field.

**Adv :** This is used to validate the particular I/P field.

**4. Start of selection :** triggered after leaving the selection screen and before display the output.

**Adv :** This is used to fetch the data from database.

**5. end of selection :** triggered after completion of logic.

**Adv :** This is used to display the output.

**6. Top of page :** It triggered at the top of each page.

**Adv :** used to display footer header information.

**7. end of page :** It is an event triggered at the end of each page . used to display footer info .

### 2 Events in Selection Screen:

i) at selection screen on P. ii) At selection -Screen on value-request . iii) At Selection -Screen on help-request.

**1) At selection screen output :** Its an event triggered at the selection screen based on the user action.

**Adv :** used to modify the selection -screen.

**2) At selection -screen on value -request :** triggered at the time of click on F4 button.

**Adv :** This is used to provide the list of possible values to the input variables.

**3) At selection -screen on help -request :** triggered at the time of click on F1 button.

**Adv :** This is used to provide the help document to the input variable .  
**At selection -screen output**

**3) At which event will be first triggering in selection screen .**

At selection screen output is the first triggering event in the selection screen.

**Q. Which event will trigger classical report .**

Load of program is the first event triggering event . we never write code in load of program event .

## Interactive reports :

5) How many basic & secondary list in interactive rep. we have only one basic list and upto 20 secondary list.

### 6) events in interactive reports :

1) At line selection . 2) At user command . 3)

3) Top of page during line selection.

4) At PF(N) , 5) Set PF Status .

**1) At line selection :** Its an event triggered at the time of any record of user click on any record of any list .

**2) At user command :** triggered at the time of user click on any menu items.

### 3) Top of page during line selection :

Its an event which is triggered at the top of each secondary list .

4) At PF(N) : triggered at the time of user click on F1 to F12 function keys .

5) Set PF status : triggered at the time of attaching our own gui to the program .

**sy-LISEL :** it is a system variable which contains the content of the selected record .

**Sy-veomm :** It is sys variable which contains the cont function code of the selected menu item .

1. hide technique . 2) Sy-LISEL techni 3) get cursor techni

**1) hide techni :** It holds the record which is Selected from the reports .

**2) get cursor techni :** get cursor techni carries the field name as well as field value which is clicked by the user .

**Note :** hide and Sy-LISEL techni are generate the next list based on the line selection . If you want to generate the next list based on the field selection then we go for get cursor techni .

**conversion\_Exit\_Alpa\_input** is the function module which is used to add the leading zeros to the input variable .

If you want to remove leading zero to the I/P variable then we use **conversion\_Exit\_Alpa\_output** .

**ALV :** steps to work with ALV .

1. declaration . 2) retrieving the logic , 3) field catalog filling for required output field .

4) display the data using

i) Reuse- ALV\_grid\_display .  
ii) Reuse- ALV\_grid\_list\_display .

**Note :** Sis-T-field cat-ALV . which contains all the fields related to field catalog internal table .

### Events in ALV :

- 1) top of page . 2) top of list ,
  - 3) end of page . 4) end of list .
  - 5) user command 6) PF status set .
- 1) top of page : It is an event triggered at the top of each page .
- 2). top of list : triggered at the top of displayed output list .
- 3) . end of page : It is an event triggered at the end of each page .
- 4) . end of list : It is an event triggered at the end of displayed output list .
- 5.) user command : It triggered at the time of user click on any record of any list as well as any menu item.
- 6.) PF status set : It triggered at the time of attaching our own GUI to the program .

note : whenever we are working with events then we must declare the event internal table .

what is T-code to upload the logo : OAER

### Difference bt grid ad list display :

grid : grid display supports oops ALV. edit ad logo is possible in grid display . by using - Reuse - ALV - commentry - write function module only we can print the text on top or bottom event . It is used to display the o/p in grid format .

list display : It won't support the oops ALV . edit ad logo are not possible in list display . either by using write or commentry write function module we can print the text on top or bottom events . this is used to display the output in list format .

By using subroutine subroutines, we will pass user command to reuse - ALV - grid - display . then we will call subroutines like

Form <form name> using ucomm type 84 - ucom

B type slis - selfield . here slis - selfield contains fieldname as well as field value which clicked by user . based on the value we will generate the interactive reports . next list .

Forms : - SET1 - SAP Script.

1) How to upload the logo?

By using T-code SET8 we can upload the logo.

2) T-code to create the standard text - SO10.

3) How to print the continuous text without any page break? by using protect, end protect is a control command used to print the continuous text without any page break.

4) How to convert the output to PDF format?

By using RSTX PDF T4 standard program, we can convert the output to PDF format.

5) How to maintain the SAP Script backup?

By using RSTX SCRIP we can take the backup of SAP Script.

Note : SAP Script is the client dependent that means, if you create SAP Script in one client that is not reflected to all other clients in the same server.

6) How to debug the SAP Script: by using RSTX & debug standard program we can debug the SAP Script. Or in SET1 go to utilities, click on activate debug.

7) Types of windows in SAP Script :

- 1) main window, 2) variable window,
- 3) constant window.

8) Different bt main window, variable window.

main	variable
without main window we can't design the SAP Script	without variable window we can design the SAP Script.

main window is used to print the continuous text	variable window is used to print the data based on window width and height.
we can split the main window into smaller windows.	we can't split the variable window.

1) constant window : constant window is the fixed window in all the pages.

etc : NACE is the T-code which contains all the application and their layouts and delivery programs.

2) Read note : Read note is the function module which is used to read the text from purchase order, purchase order header text, purchase order item text, sales header text etc...

3) How to transport the standard text: by using RSTX TRAN Standard programs. we can transport.

Smart forms : SMARTFORMS - T-code.  
what is the use of smart styles : smart styles are used to create the paragraph or character format. we can include once Smart-style in any number of smart forms.

can we include watermark or background pic : Yes, we can include background pic / watermark inside the smart form in the background pic tab.

How to convert the SAP Script form to smart forms:

By using FB - my gen migrate - form function module we convert the SAP script to smart forms. Events in smart form : 1) only on first page, 2) not on first page, 3) only after end of main window, 4) only before end of main window.

Difference between SAP Script and Smart Forms:

SAP Script : It is client dependent. without a main window we can't design the SAP Script. watermark is not possible in SAP script. we can convert the SAP script to smart forms.

Paragraph and character formats are not reusable. we can't develop the code in SAP Script.

Smart Forms : It is client independent. without a main window we can design the smart forms. watermark is possible in smart forms. we can't convert the smart forms to SAP script. Paragraph and character formats are reusable. we can develop the code in smart forms.

Types of windows in Smart Forms : 1) main window, 2) secondary window, 3) copy window, 4) find window.

1) Main window : It is used to print the continuous data.

2) Secondary window : It is used to print the data based on window width and height.

3) Copies window : If you want to print the same document multiple copies with different headings then we go for copies window.

Events in Smart Forms :

1) event on sort begin, 2) event on sort end.

1) Event on sort begin : It is an event triggered at the first record of each block. It's similar like at new field name.

2) Event on sort end : It triggers at the last record of each block. It's similar like at end of field name.

Note: smart form functional module. To transport: \$&function\\_module-name. is the function module which is used to generate the smart form functional module number based on smart form name.

### How to page break in smart forms:

faller is used to print the continuous text without any page break.

### why smart form in client independent:

when ever we activate the smart form then it generates the function module. This function module is client independent. so that smart form also client independent.

### How to debug in smart form:

we can place a breakpoint inside the function module which is generated by smart forms or we can write to break

### Conversions : BDC's

what is the T-code to do according: SHDB.

Difference between call transaction and session method:

<u>call transaction</u>	<u>session</u>
1) It can process only one transaction at a time.	It can process any no. of transactions at a time.

2) we manually handle the errors	In session method an error log will be generated that can be handle errors.
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3) It suitable if the flat file contains the less data	It suitable if the flat file contains huge data.
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4) It is asynchronous database update	Synchronise database update.
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### How to handle the errors in call transaction:

format-message is the function module which is used to handle the errors in call transaction method.

synchronous database update: if the first record successfully updated in the database table then the second record update start.

### What is asynchronous database update:

if the first record successfully updated in the database table or not then, the second record update start.

### Syntax of call transaction method:

call transaction < T-code > using < BDC data it > module 'N/N/E' messages into < BDC msg or call it > update 'S/A'.

mode A - Fore ground. B - background mode E - error mode.

### Difference between normal function module and RFC function module and BAPI.

#### normal function module:

we can use this function module within the same SAP system.

RFC func module: it is used to connecting from one SAP system to another SAP system. by providing RFC destination name and client.

BAPI: BAPI is used to connecting from SAP system to non SAP system. SAP system because it has been implemented using basic concepts.

#### Enhancements: different type of customer exits:

1) menu exit 2) screen exit, 3) field exit,  
1) menu exit: it is used to add some additional menu to the std program.

2) screen exit: it is used to add some additional sub screen to std program.

3) field exit: it is used to performs the additional validation on the field.

### what is the T-code to create the customer exit:

CMOD.

what is the T-code to identify / definitor of customer exit: SMOD.

How to identify the customer exit: we always find the customer exit through package of the transaction code.

### BADI's:

what is the difference of BADI & customer exit:

BADI: we can implement the same BADI. any number of time. by using SE19 transaction we can implement the BADI.

customer exit: we can implement the customer exit only once. By using CMOD transaction we can implement the customer exit.

what is the T-code for BADI definitor:

SE18.

- ④ How to identify the standard BADI's
- 1) Execute SE24 - provide the class name.
  - 2) Click on exit handler. click on display.
  - 3) Double click on get instance method. place the break point on first call method.
  - 4) now we execute required transaction in separate session.
  - 5) Then we can observe the BADI's related to the transaction inside debug.

What are different types of BADI's

- 1) Single implementation BADI,
- 2) Multiple implementation BADI,
- 3) Filter BADI.

#### 1) Single implementation BADI :

A BADI which has only one implementation is called single implementation BADI.

#### 2) Multiple implementation BADI :

A BADI which has multiple implementation is called multiple implementation BADI.

#### 3) Filter BADI : It is a type of BADI which has filter value so that only those implementation filter values are executed. These type of BADI's are called filter BADI.

### Data dictionary

Difference between include structure and append structure:

<u>Include structure</u>	<u>Append structure</u>
It is used to add some additional fields to the custom table.	It is used to add some additional fields to old database table.
The same include structure can be included in any number of custom tables.	The same append structure cannot append more than one table.

2. What is primary key: primary key is the collection of unique plus not null. we can place upto 16 primary keys per table.

3. What is foreign key relation: It is a field in one table that is connected to another table via foreign key relationship. The purpose is validate the data being entered in one table (foreign key table) by checking the list of possible values in another table.

④ Different types of database table.

- 1) Transparent table, 2) Posted table,
- 3) Cluster table.
- 1) Transparent table : This tables are one to one relationship.
- 2) Posted table : This tables are many to one relationship. Here indexes and joins are not possible.
3. Cluster table : There also many to one relationship. Here buffering and joins are not possible.

What is search help : This is used to provide the list of possible values to the input via.

There are 2 type search helps.

- 1) Elementary search help.
- 2) Collective search help.

What is hot key : Hot key permits the user to select an elementary search help from the collective search help directly in the input field with short notates.

Where the lock objects : Lock object are used to avoid the concurrent access of multiple users on the same database. The lock object name must be starts with E\_ZREY. whenever we create the lock object then it generates two functions namely 1. Enqueue . 2) deque.

for locking and unlocking.

What are the types of lock object :

1. Write lock / exclusive lock : The locked data can be processed by only one user.

2. Read lock / shared lock : Several users can read the same data at the same time but only one user can process the data.

3. Exclusive but not cumulative lock :

Several users can read as well as process the data at the same time.

What is buffering : Buffering is the temporary place in the application server. It is used to improve the performance of the system.

## what is the views :

views are logical databases not physical database. at runtime only view contains the data.

## what are the different types of views :

### 1. Projection view

If you want to display the part of the data from single database table. then we fetch the data from database table and display it. if it is a frequent activity, then its better to create projection view. Projection view always involves only one database table.

### 2. database view :

\* If you want to display the part of the data from more than one table. then we fetch the data from each table and display it. \* database view is always involves more than one table.

+ Data base view picks the data from both the tables if and only if there is one or more than one ~~set~~ entry is available in the right hand side table with corresponding left hand side table.

### 3. help view :

\* It picks the data from left hand side table even though there is no match found in right hand side table. It involves only two data base tables → we can't fetch the data from help view.

## what is value table :

In the value table the possible values are maintained in domain level so value table are called domain level mapping. whenever we provide the data to the database table then it check against the list of possible values in domain level.

## what is check table :

Here the possible values are maintained in check table.

Whenever we provide the data for foreign key table then it check against list of possible values in check table. check table field level mapping.

## what is TMB : (SM 30)

TMB is used to insert update modify and delete the data from the database table without any code. It is possible only for custom tables not standard table. Some of the events in TMB.

- 1.) Before saving the data in database.
- 2.) After saving the data in database.
- 3.) Creating a new entry.

Collective Search Help : collective search help is collection of elementary search help.

Maintainence View : Maintenance view is created on two or more tables, which is used to maintain the data of several tables all together.

It can combine the several tables in single unit, but the tables must have foreign key relationship.

Q: Can we create a table without a primary key?

An.: We cannot create a table without primary. It will give the error.

Q: Can we create a table without MANDT field?

Ans: Yes we can create a table without MANDT field.

Note: If we don't have MANDT field in table then it will be client independent.

If we have MANDT field then it is client dependant table.

## Module pool / Function Dialog pool

### Events in Module pool?

1. PBO (process before output): is an event which is triggered before displaying the selection-screen.

Adv: This is used to provide the default values to the screen.

2. PAI (process After input): is an event which is triggered after provides input to the screen.

Adv: This is used to implement the logic.

3. pov (process on value request): is an event which is triggered at the time of user click on F4 button.

Adv: This is used to display the list of possible values to the input-variable.

4. POH (process on Help request): is an event which is triggered at the time of user click on F1 button.

Adv: This is used to provide the help document to the input variable.

### 2) Syntax of table control

Controls <table control name> type table view using screen <screen number>.

### 3) How to provide the F1 help to input field?

Ans: Using F4if\_init\_table\_value\_Request function module we will provide the F1 help to the input variable.

### 4) How to provide the dropdown to input variable?

Ans: By using VRM\_SET\_VALUES FM, we will provide the dropdown list to the input variable.

### 5) What is chain...end chain or How to enable input field if we get error in screen?

Ans: It is used to validates the input field. If we use chain...end chain if you get the error, then it display the all the related fields in edit mode.

## 6. Diff b/w select-options & Range

### Select-options

1. It provides screen to enter the input.

It will not provide any screen to enter the input, values are directly added to program.

2. By default select-options contains sign = 'I' and options = 'BT'.

2. It wont contain any default values.

## OOABAP

### 1. How to display ooALV output?

Ans: By using SET\_TABLE\_for\_First\_Display method we will display output.

### 2. Difference b/w static and instance?

#### static

#### instance

1. static attributes can accessed by object & class.

1. instance attributes accessed by object

2. only static attributes can be used inside the method

2. Both instance, static attributes can be used inside the method

Ex if class = 10  
obj1 = 20.  
obj2 = 30.

Ex if obj1 = 20  
obj2 = 30

if you try to print class or obj1, also the value will be 30 only.

if you try to print the obj1 then value is 20  
obj2 then value is 30

### 3. What is inheritance?

Ans: It is derive the new class based on existing class (parent class).

### 4. What is interface?

Ans: Interface is collection of methods which are defined not implemented.

### 5. What is abstract class?

Ans: If the class contains atleast one abstract method then the class is called abstract class. These abstract methods are implemented through child class.

put the break point in that function module now go to WE19 transaction provide the idoc number. and click on inbound function module if it inbound idoc or click on std outbound if it outbound idoc.  
How to find which type of idoc? If it is direction  $\rightarrow$  then it is inbound idoc if it is  $\leftarrow$  then outbound idoc.

Scenario: i we had a scenario in production whenever we worked with bAd's for inbound transaction the added fields is not reflecting in the layout even though it is added in structure. I have resolved this issue by executing a standard program RFPDSX EXTEND to reflect the fields in layout. I inform same with my colleague and basis team as 'This is manual activity' whenever we do this changes.

Imparting  $\rightarrow$  To receive the values from program.

Exporting  $\rightarrow$  To send the values to program.

changing  $\rightarrow$  It is two way communication like sending as well as receiving.

Retrieving  $\rightarrow$  Similar like exporting.

Exporting  $\rightarrow$  Retaining

- |   |                       |
|---|-----------------------|
| 1. we can use more than one parameters. | 1. only one parameter |
| 2. pass by reference or value           | 2. only one value.    |

Pass by value: as it will have values not the memory.

Pass by reference: it has the values with reference.

watch point: click on watchpt, give the require variable click on enter and press F8. it will go to the next point.

## Performance tuning

1. Do not use select query inside a loop.
2. Use Binary Search whenever we are using Read table.
3. Use always where condition in the select query.
4. Do not use nested loop which means loop inside loop.

To avoid the nested loop we

will use parallel cursor Technique.  
we will loop header to

Ex: Loop At  $IT\_E100$  into  $WA\_E100$ .  
we can read the item table based on key  
Read table  $IT\_E100$  into  $WA\_E100$ .

With  $EBELN = WA\_E100-EBELN$ .  
if condition has been satisfied then we move the  
 $LV\_Tabix = sy\_tabix$ .  
sy-tabix value into lv.

Loop At  $IT\_E100$  into  $WA\_E100$ .  
based on the lv we will loop the item table.  
from  $LV\_Tabix$ .  
and get the required information.

If  $WA\_E100-EBELN = WA\_E100-EBELN$ .

else. Exit.

Endif. Endloop. Endloop.

5. Before using for all entries  
check the primary intermatch  
having the data or not.

2) what is inner join

inner join pick the dat from  
both the table if and only if there  
is one or more than one entry is  
available in the right hand side  
table with corresponding left hand  
side table.

Left outer join: It pick the dat from  
left hand side table even though there  
is no match found in right hand side  
table. it is possible for only two tables  
for all entries : for all entries pick the  
data based on where condition first,  
next it based on on-condition.

I can check the steps to trace the program. by  
using this we can find out the which selection taking  
more time or which place taking more time.

5. What is insert: insert is used  
to insert create the data in database  
table if there is no record exist.

6. what is update: update is used to  
update the data in DB if there is  
a match found.

7. what is Modify: Modify acts like  
insert if there is no record other  
wise it acts like update.

This domain level, table level, primary key, mandatory  
for all entries, pass by value, pass by reference.

Syntax of call transaction method.

call transaction < T-code > using  
< BDC data it > mode 'A' IN 'E' message into  
< BDC message call it > update 'S1A'.

- SE18-BADI definition → SE9-BADI impl.
- SE93-Tcode creation, → SE91-Message creation
- SD04 - Standard Test
- SE37 - PRO FM
- SE38 - program
- SE11 - Tables, structures (DB)
- SE24 - class O
- SE71 - SAP script
- Smartforms - Smartforms

Data class : Data class determines the physical area of the database in which a database table is created.

1. AppL0 : Data that is rarely changed.

2. AppL1 : Data that is changed frequently.

3. AppL2 : customizing data specified when the system is configured and then changed rarely.

Delivery class: Delivery class is used to control the transport of the table data for an installation, upgrade, or client copy and transports between customer systems.

Foreign key : foreign key is a field in one table. This is connected to another table via foreign key relationship. The purpose is to validate the data being entered in one table (foreign key table) by checking ~~list of~~ Against list of possible values in another table (check table).

prerequisite

1. The domain name of the both fields in both the tables must be the same.

2. The check table field must be the primary field.