ILP PROGRAM - ORACLE APPLICATIONS

Tata Consultancy Services

Oracle Forms Study Guide – Day2

Author:	MD. Nazmul Hoda (TCS)
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Approvals:

<Approver 1>	Santanu Sarkar (TCS)
<Approver 2>	Shubho Chakraborty(TCS)

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How to use this manual

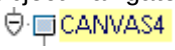
This guide is continuation of “Oracle Forms Study Guide – Day1”. Continue reading it in the same way as Day1 guide.


In this section you will continue learning how to fix the problems with the layout, which we left in the Day1 manual. You may prefer to go to the Day1 manual and recap where you left it.

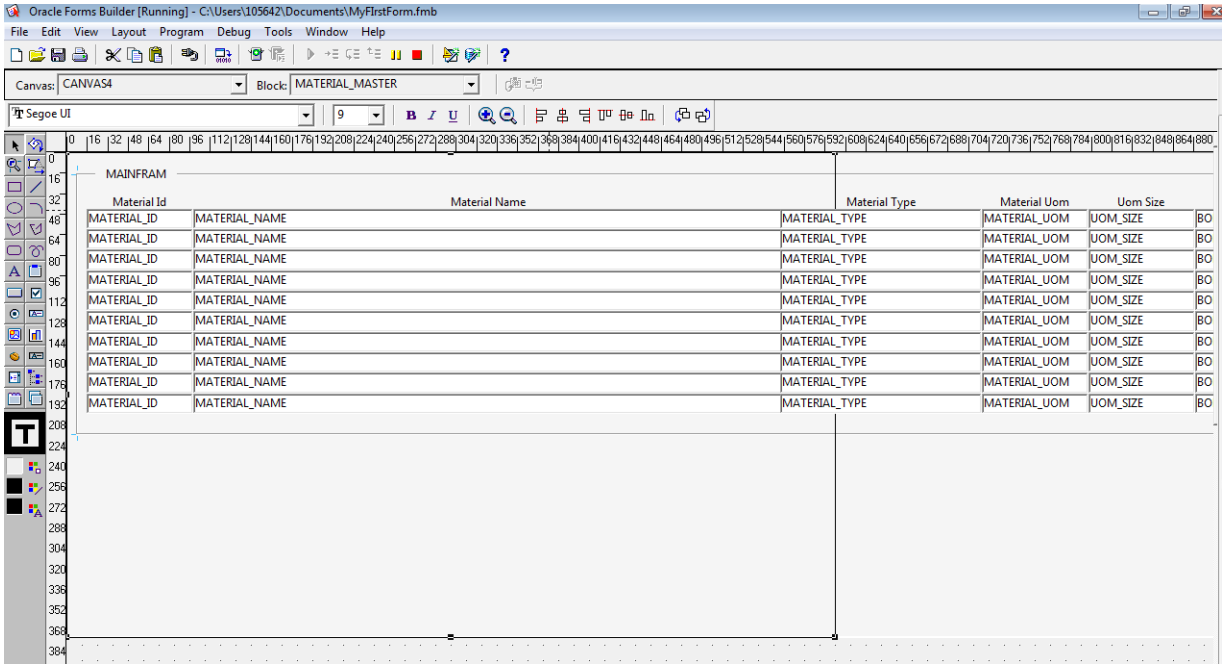
To fix this, we have following options:

- Increase the window to show all the fields
- Decrease the size of the fields on the display to fit this window

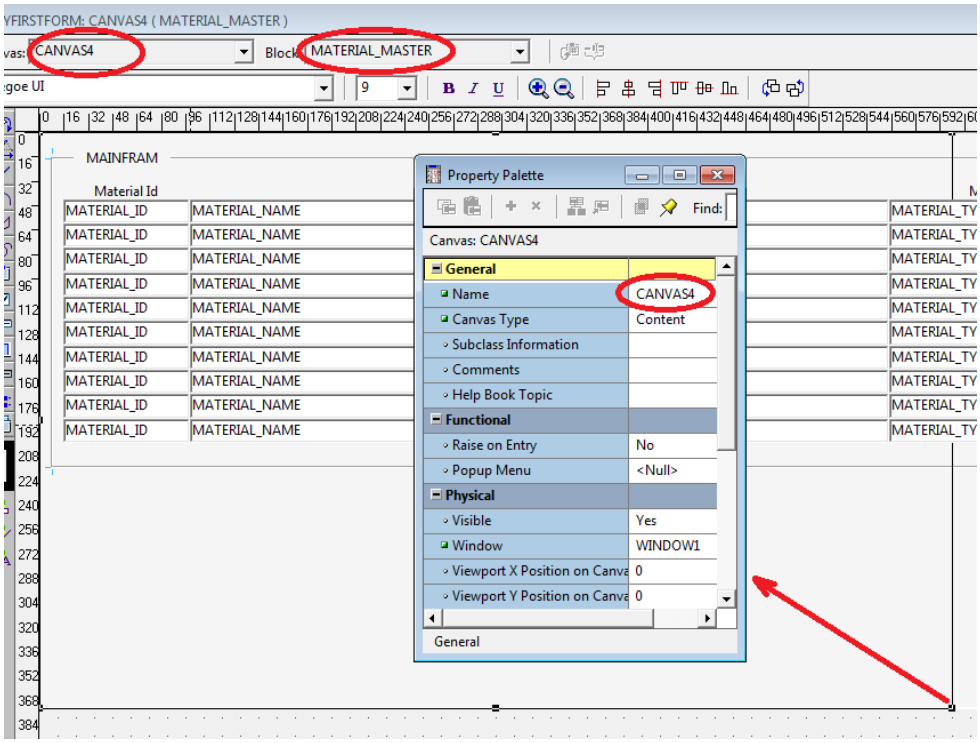
Option1:

Go to Object Navigator (Tools > Object Navigator or press F3) and click on the small rectangle in the canvas 

. You will see the canvas as below:



Let us understand the basics now. Click on the big rectangle and the Property Palette window will pop-up as shown below:

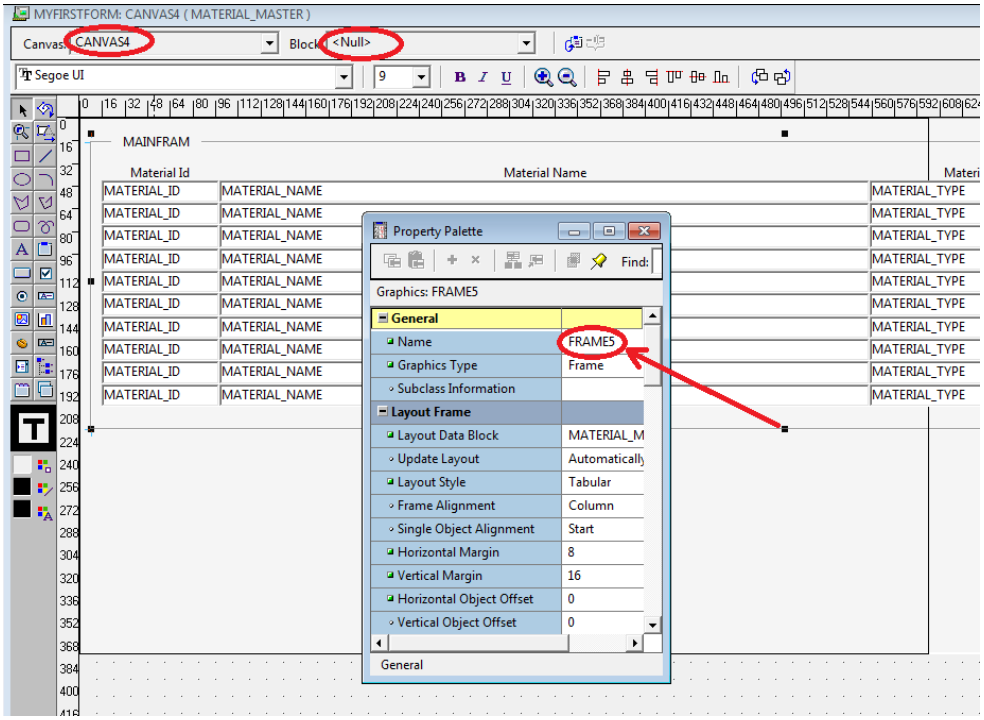


Note the following:

This is the canvas named CANVAS4. A canvas is like the canvas used for making pictures, and this is the one which will be visible to the users. Anything lying outside will not be visible, since users see the canvas only. In our case, the objects have spilled beyond the canvas, so we can see only part of the objects.

Note that the name of the canvas is shown on the top row also. The top row also shows the Block name. In a form, all fields has to be inside a block.

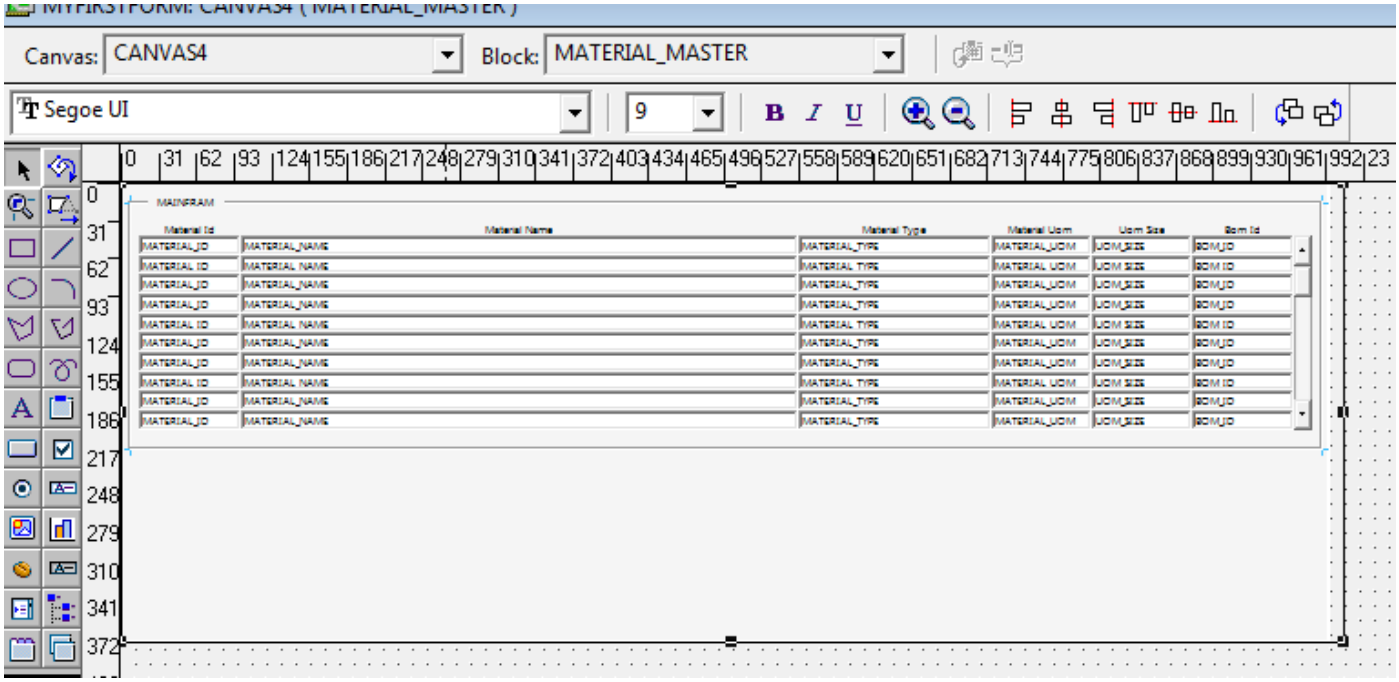
Now click on the other smaller box, which surrounds the fields as shown below:

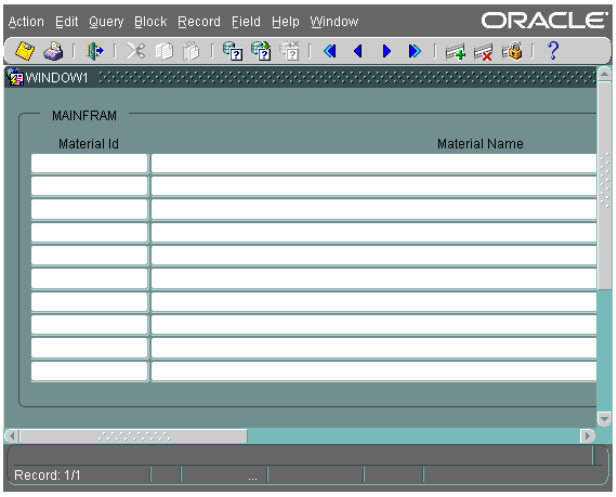


Note the following:

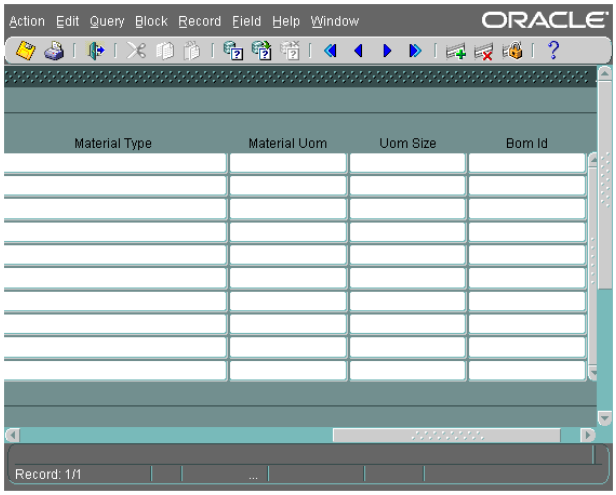
- This object is a frame named FRAME5
- This frame belongs to the Canvas named CANVAS4
- Block name is Null, leave it aside for the moment, we will explain this in next sections.

Back to fixing our problem, click on the edge of CANVAS4, and drag it to cover all the fields we want to display as shown in the diagram and run the form again.





Left side view



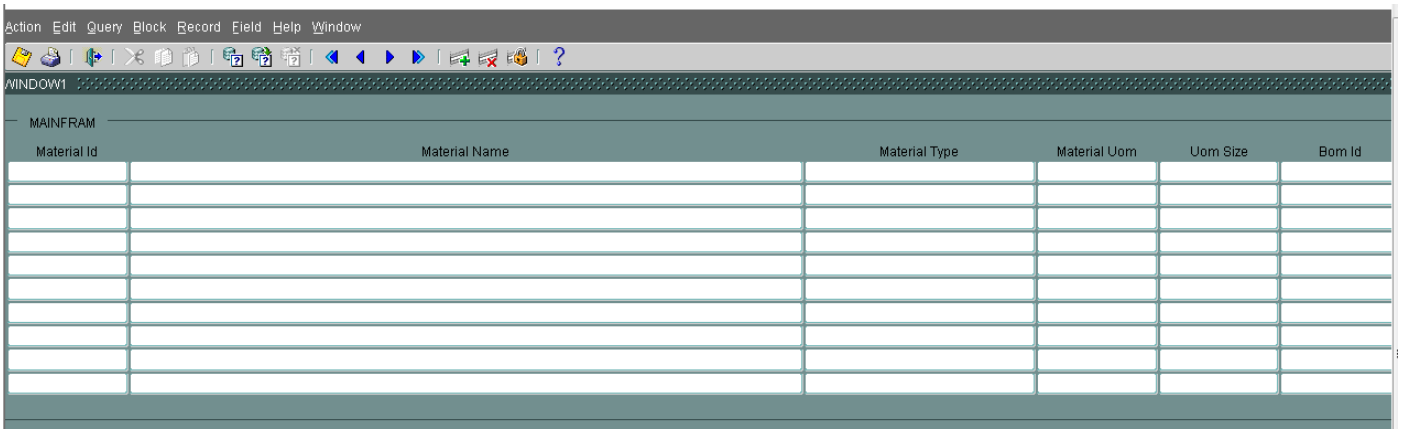
Right Side View

Notice that now we can scroll and see all the fields.

Video4: Script: Creating a Form Module

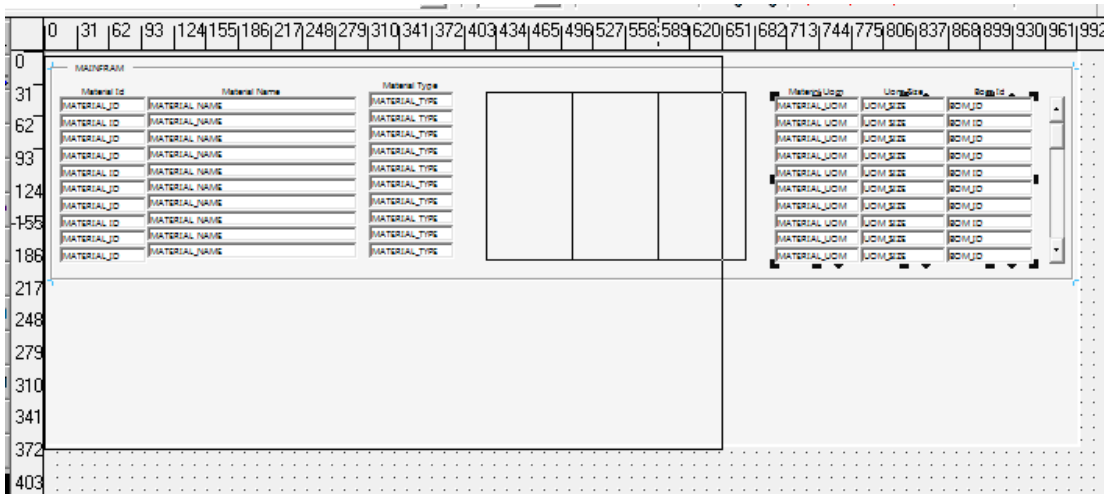
Here Step by Step Screen capture of the above activity of creating a single block form showing different options and errors.

TASK2: We are still not happy with the above solution and we want to see all the fields in the same view without the need to scroll, since there is still space on my screen. It should look like the below:

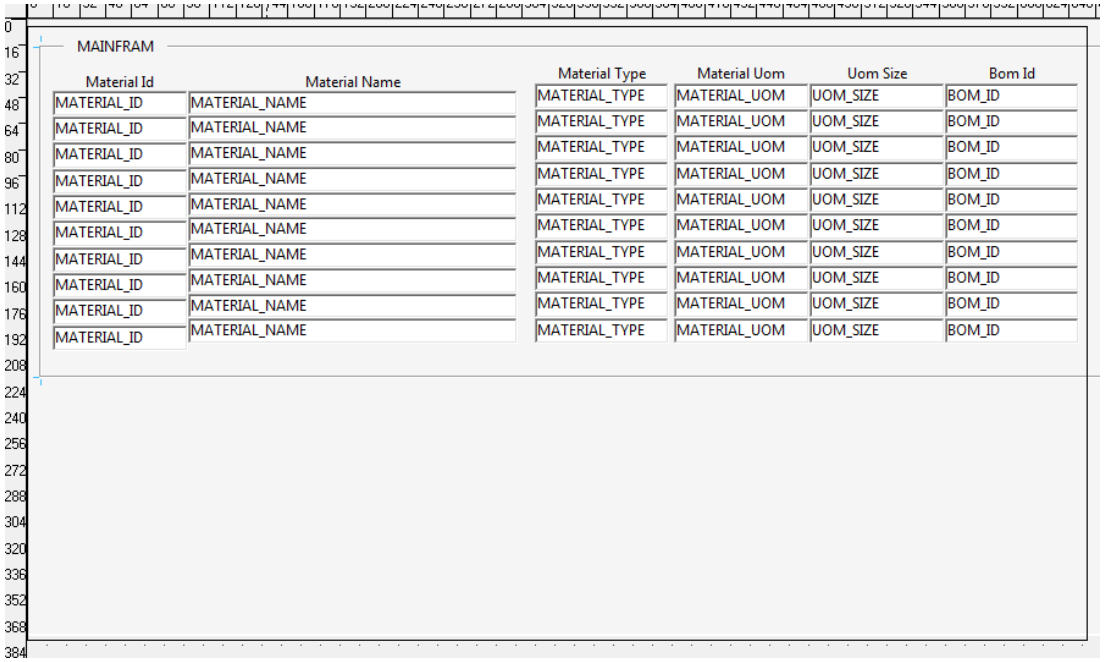


Option 2: Adjust the fields to fit the canvas:

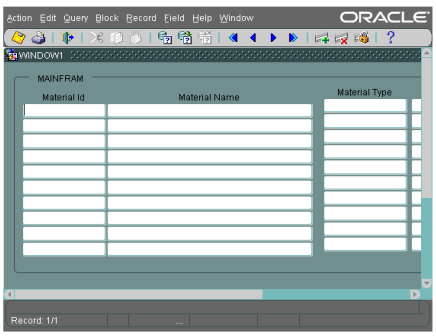
Go to the Canvas View and use your dragging skills to squeeze and drag the fields to fit the canvas as shown below:



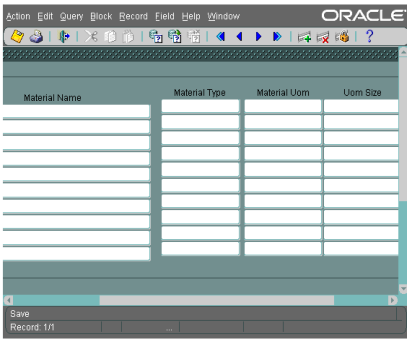
The final canvas should look like the below with all the fields inside the CANVAS4:



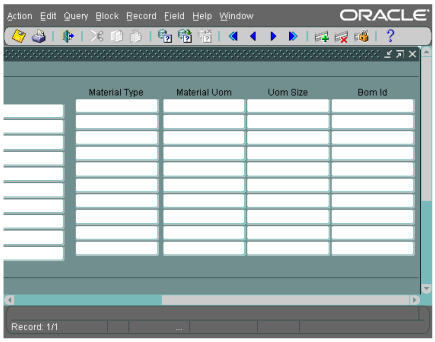
Now we are able to see all the fields with horizontal scroll bar.



Left View



Middle View



Right View

TASK3: Create a single block form with some complexity

This denotes the task to be completed by the audience on his own PC. The layout of the output has to be followed as it is. For any confusion, the faculty should be contacted.

<Tasks are being Synched with the Master Case study, Details to be provided soon>

1.1 How Forms Related to Tables

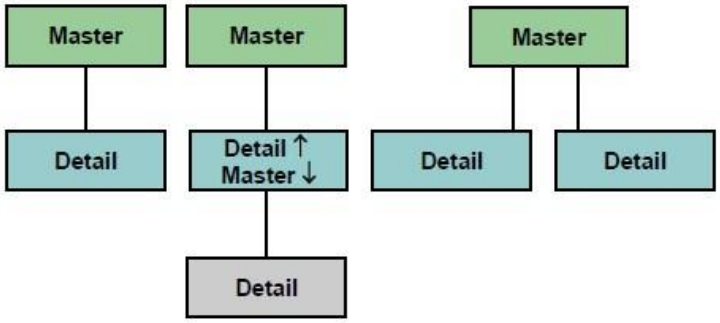
The Data Form Block can contain one or more data blocks. Each data block can stand alone or be related to another data block.

Master-Detail Relationship

A master-detail relationship is an association between two data blocks that reflects a primary-foreign key relationship between the databases tables on which the two data blocks are based. The master data block is based on the table with the primary key, and the detail data block is based on the table with the foreign key. Master-detail relationship equates to the one-to-many relationship in the entity relationship diagram. A Detail Block Can Be a Master

You can create block relationships in which the detail of one master-detail link is the master for another link.

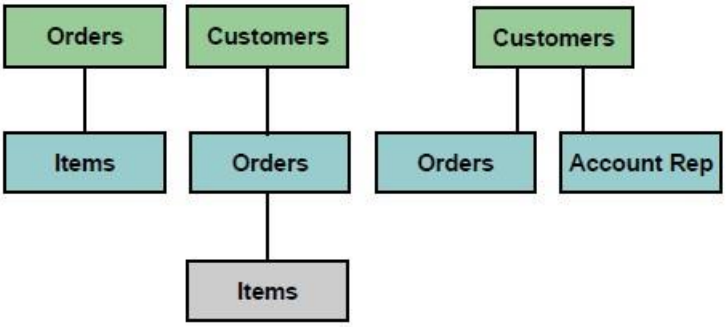
Form Block Relationships



Take an example of Item and Customer Relationships of Master Block can have a relationship of more than one detail block for a master block. The following are examples of the master-detail structure:

- **Master-detail:** Order to Items Relationships
- **Master-detail-detail:** Customer to Items Relationships with the help of Order details
- **Master have Two Details:** Also the Customer have two Details as one is Order and another is Account related to customer. The diagrammatic explanation of above logic is

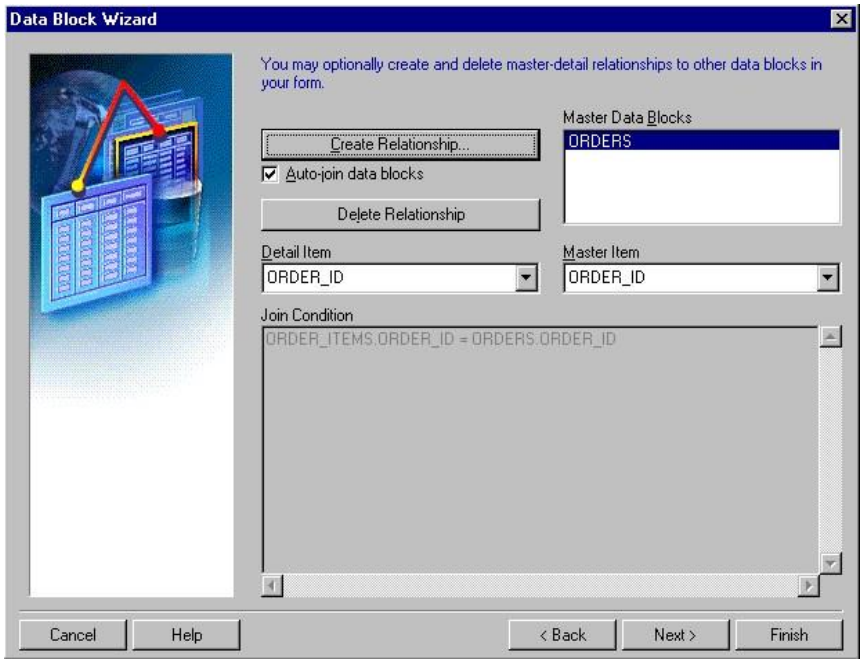
Form Block Relationships



As a business approach every Order have some Items which is defined in the business as Master item. That is the Green entity is refer to Blue entity that means the ***Item*** block is the master block of ***Order*** block.

In the same way, the ***Item*** is the master block of ***Order*** that in terms the master block ***Customers***. So the customer refer

To Order and ***Order*** is refer to ***Item***. Wherever the reference block is the master Block. So as this approach,



Customer is refer to ***Order*** and at the same time he refer to ***Accounts*** is called “Master have Two Details”.

The following screen is the Form’s data block wizard to establish the relationship between Master and Detail. Assume already the Item Block has created, now at the time of order block creation the relationship establishment is simple as similar to oracle **SQL** where condition in the join box section.

Note: If the “Auto-join data blocks” select will automatically establish the where condition with the help of foreign key constraint between Item and Order Relationship in DATABASE level. In the Upcoming section will explain on simple establishment Form development for ether data entry or Screen Report purpose.

The Post screen flow of Forms Object Navigator on Master-Detail relationship as shown as *Relation Object*

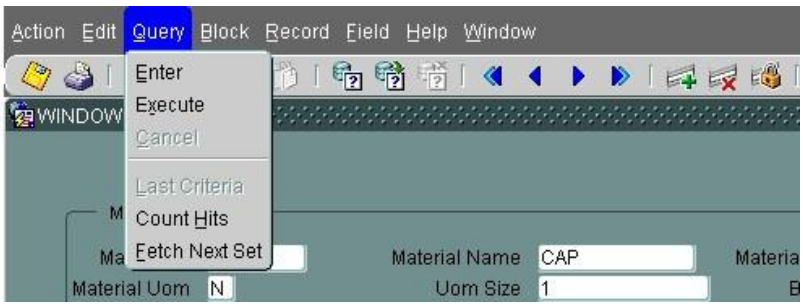
Later we discuss this as detailed approach in Document as well as in the Video section

Relation Object

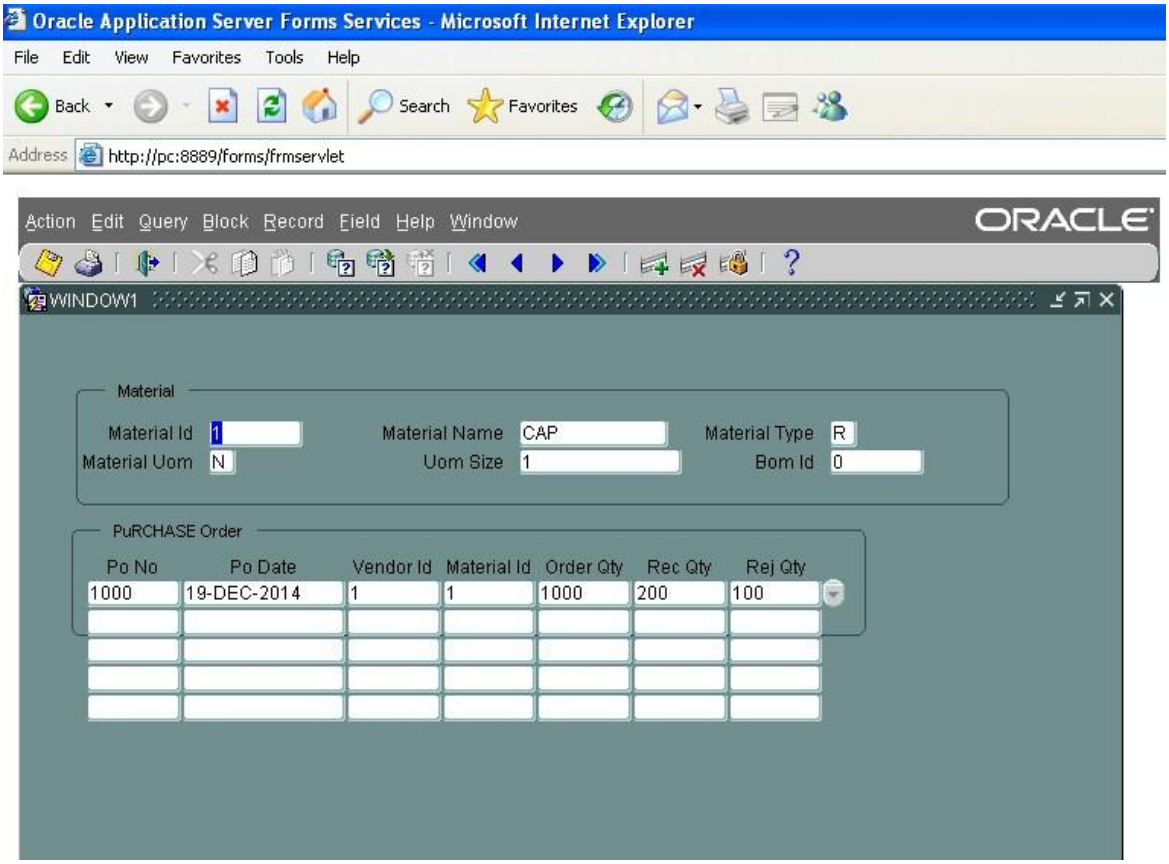
- New relation object created in Object Navigator under master data block node
- Default name assigned: `MasterDataBlock_DetailDataBlock`
- Triggers and program units generated automatically

1.2 Form usage

If the form either simple or complicated, the way of execute the form on developing environment is just click Query > Execute will give a screen called “Data Entry and Data Query” screen as below



To execute the form screen is always on *IE* Browser for window based environment. For Linux environment the Browser is *“Mozilla Firefox”* as shown below. The screen can use either new Data Entry or existing Data Query. For New Data Entry we need more level of development for control the block. In terms of Data Query as explain above, if you execute the system extract all data in all block (as Material & Purchase Order) in terms of relationship concept and the system place the control on first block after execute the Query.



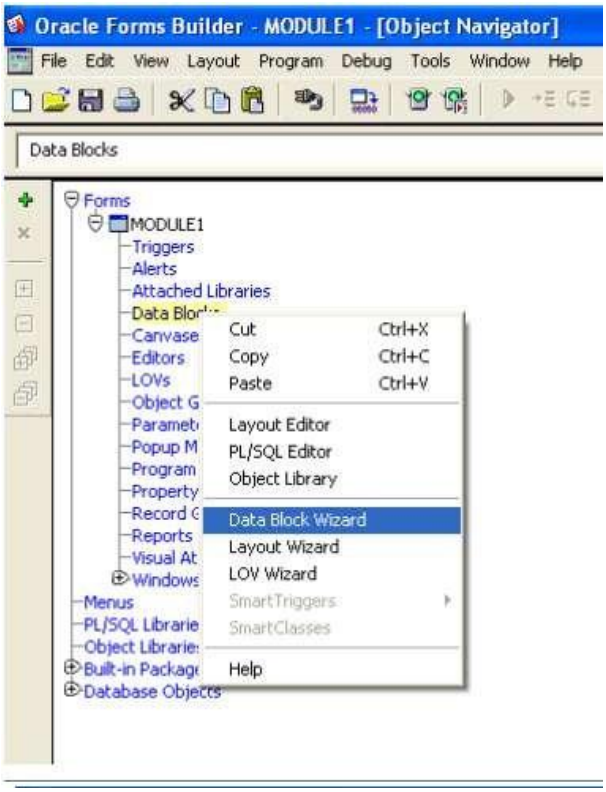
For all Material on Single Record master block, the Corresponding Purchase Order details listed on Multi-Record Detail block. This is called the Master-Detail Block

Place the Cursor on Master block and press the Down arrow key on Key Board will show all corresponding records

2. Creating Data Blocks with Relationship

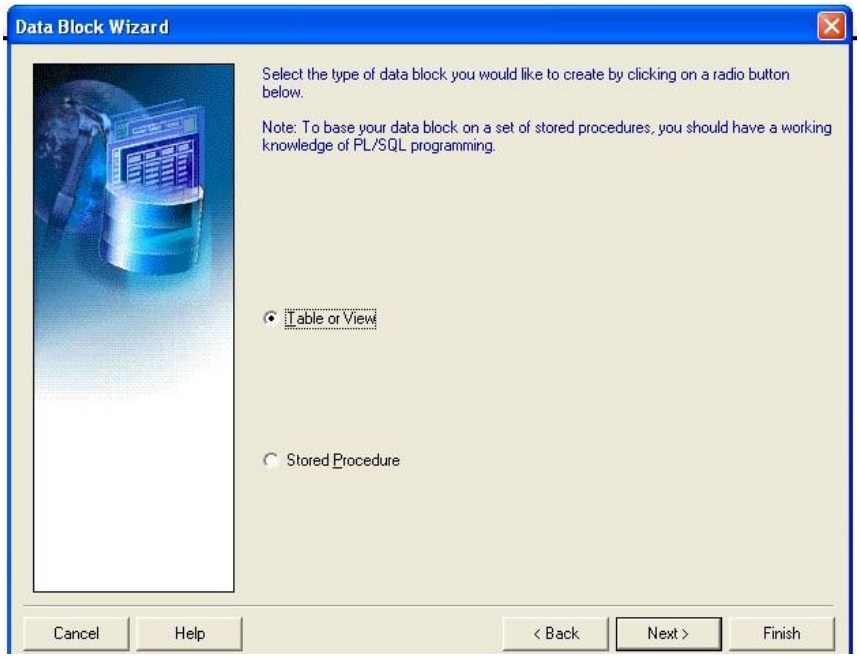
5.1 Create the first Data Block:

Step1: Place the system control on the Data Block and right click to select the 'Data Block Wizard'

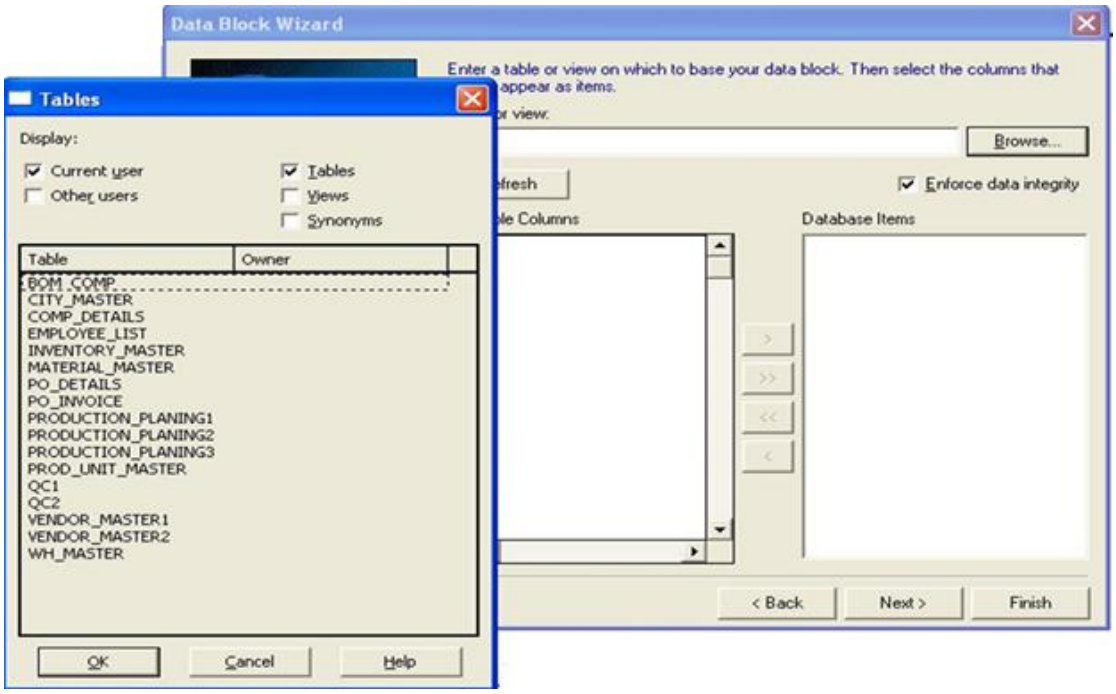


Step2: Click Next

Step3: Select the table or view option



Step 4: The Next screen give a *Browse* option will display all tables and views then select the table what you want. For this flow select *"Material Master",* then select the "Enforce data integrity" will implement the database integrity rules like Not Null, FK,PK in terms of Trigger. Note: Trigger will discuss on later part of the program.



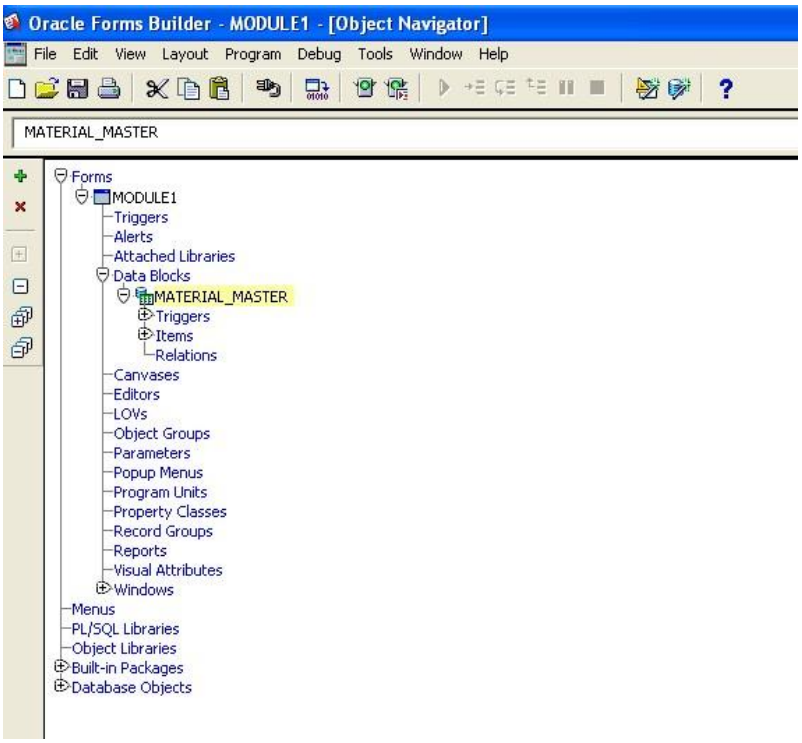
Step 5: Now select all fields to click on >> button, will move a fields from *Available columns* to *Database Items*

Step 6: The table name as in database will be the default value of the *Data Block Name.* If you want to change then modify it. But as best practice don't modify the default name in *Data Block* creation

Step 7: This is the last screen for Data Block Wizard Creation, for the First Data block. Now don't select the first option. *Choose "Just create a Block"* option.

Select the *Finish* option will bring back to the *Object Navigator.*

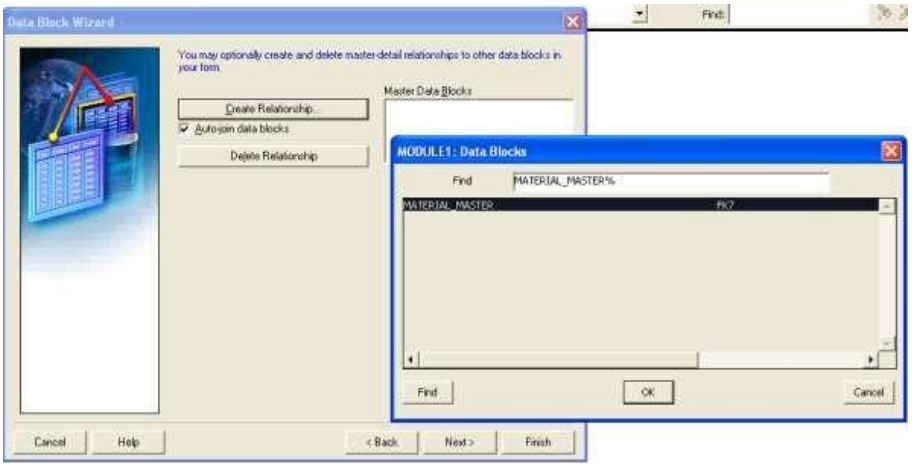
Step 8: See the *Data Blocks* section, It can show the data block as a Database Table name is a Default name. Avoid certain conflict, don't modify the default name in *Data Block* creation



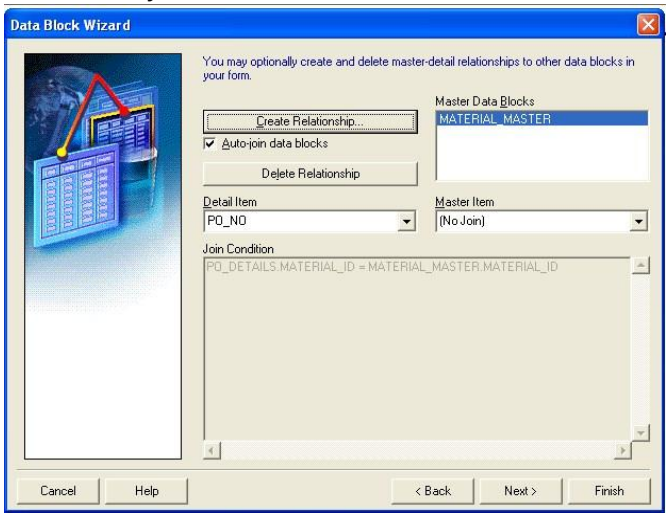
Once the first data block has created then immediately save the Form using *File > Save*. The form is save as FMB extension

5.2 Create the Second Data Block:

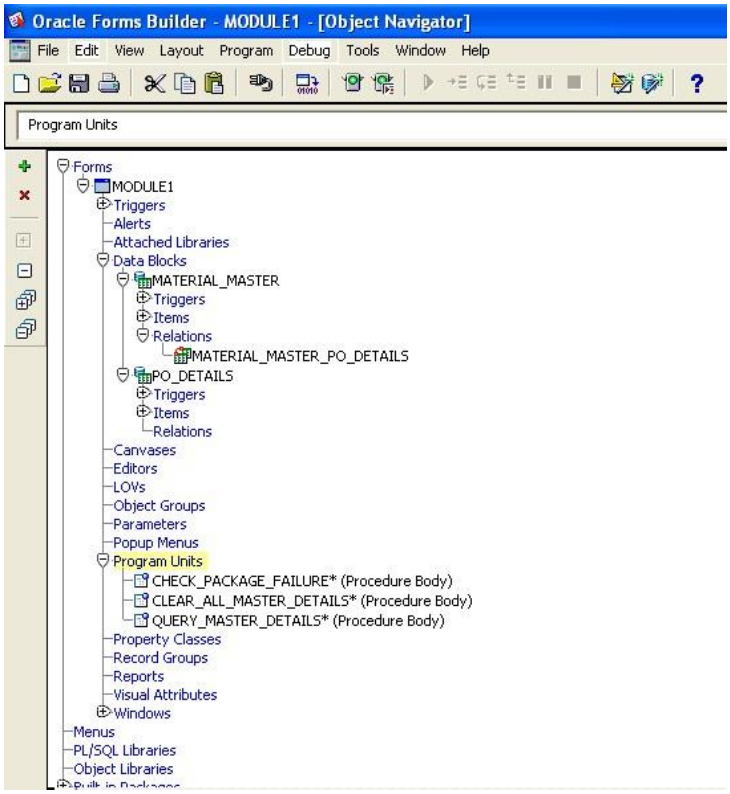
From the second data block onwards, the system introduced one more step after the step 5 is it give the opportunity to establish the relationship using "*Create Relationship*". Before create a Relationship, check the Auto-Join option is selected. If it select and then *click* the *"Create Relationship"* will show the list of blocks as we created before.



If the selected table in the new block has a relationship with the first table, a relationship condition will automatically be created.



Once the second data block has been created, look at the object navigator to see the Data Block hierarchy and the relationship appearing.



Now the blocks are tied together with a relationship. So queries made in the first block can be retrieved in the second block by executing the command 'EXECUTE_QUERY' inside a trigger as appropriate.

Video5: Script: Creating Form with multiple blocks and relationship

Here Step by Step Screen capture of the above activity of creating a single block form showing different options and errors.

Note: The beauty of developing a form this way is that any Data manipulation made in in one block will get reflected on another block and the corresponding base table when data is committed.

TASK4: Create a master detail relationship form with 2 blocks:

This denotes the task to be completed by the audience on his own PC. The layout of the output has to be followed as it is. For any confusion, the faculty should be contacted.

<Tasks are being Synched with the Master Case study, Details to be provided soon>

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3. Layout Wizard

There are different ways to launch the *Layout Wizard* to create a new layout. To perform one of the following steps:

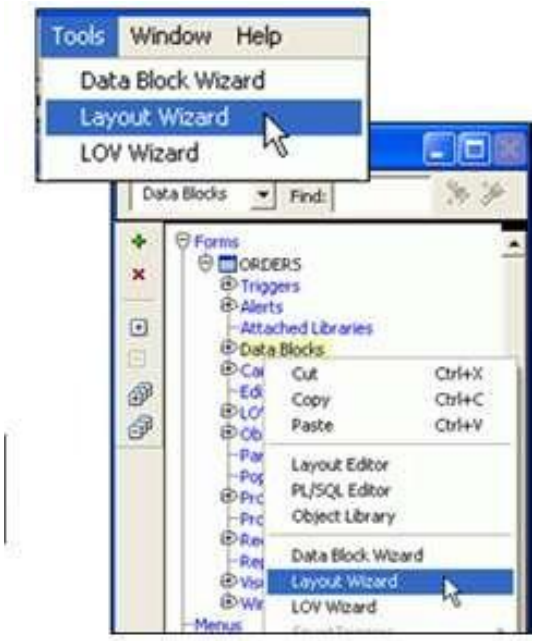
Launch at the stage of *Data Block wizard* Congratulation screen.

- OR

- In the Forms object Navigator itself, Select *Tools > Layout Wizard* from the Forms Builder default menu system.

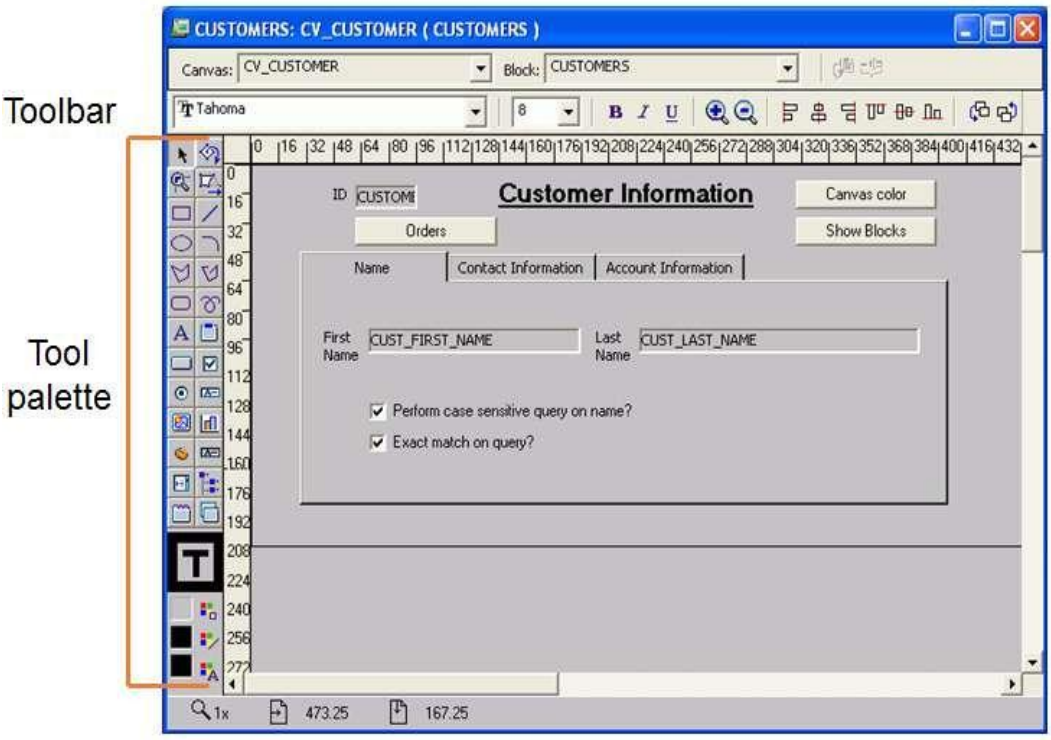
- OR

- *Right-click* on the Data Blocks and select the *Layout Wizard* option.



3.1 Layout Editor

The Layout Editor is a graphical design facility for creating and arranging interface items and graphical objects in your application. You can use the Tool palette and the toolbar available in the Layout Editor to design the style, color, size, and arrangement of visual objects in the application. The layout can include graphical objects and images. *This is very easy tool to handle and create a Data Entry or Data Query screen.*

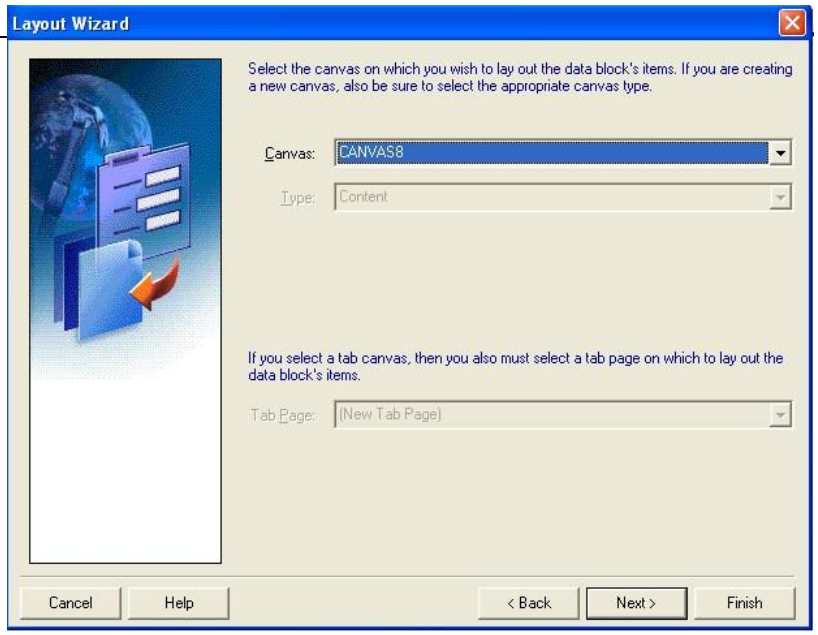


3.2 The Four Important Sections in the Layout Design

Step 1: Use the Layout Wizard to lay out the data block items for visual presentation quickly and easily. The Layout Wizard consists of several pages. You must interact with each page.

Canvas Page ********

1. Select New Canvas from the Canvas pop-up list to get a new canvas on which to display the data block items.
2. Select Content as the canvas type in the Type pop-up list.

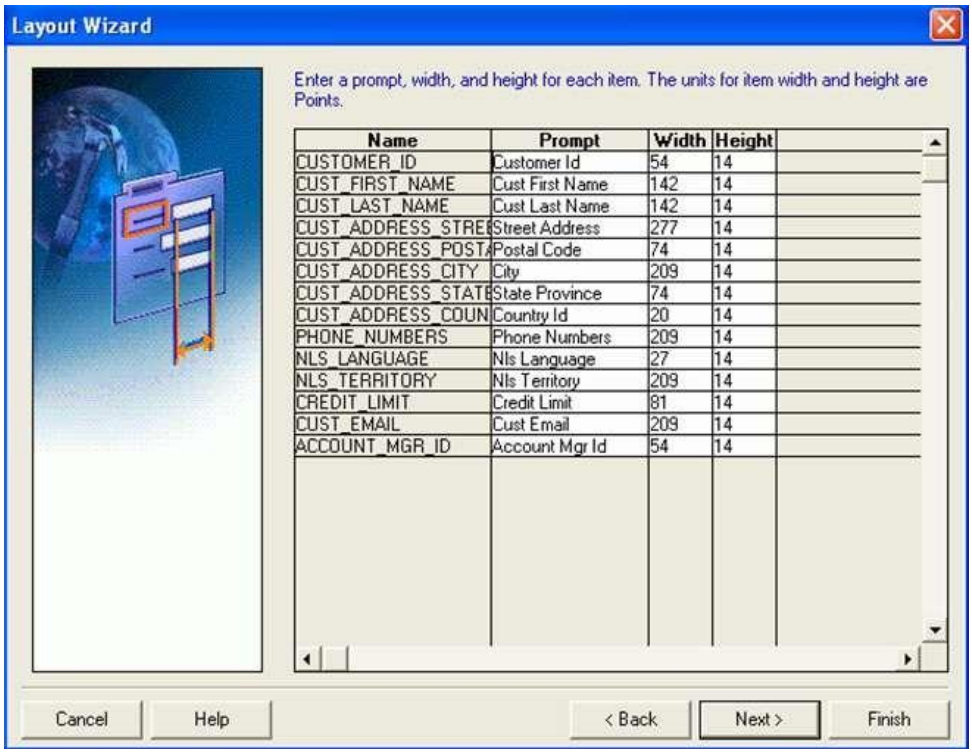


Step 2: **Data Block Page**

1. Select the items that you want to display in the data block frame. (To select more than one column, press and hold [Ctrl] and then select the columns.)

Note

- Click the double-right arrow or double-left arrow to include or exclude all items, or click the right arrow or the left arrow to include or exclude selected items only. You can also drag selected items from one list to another.



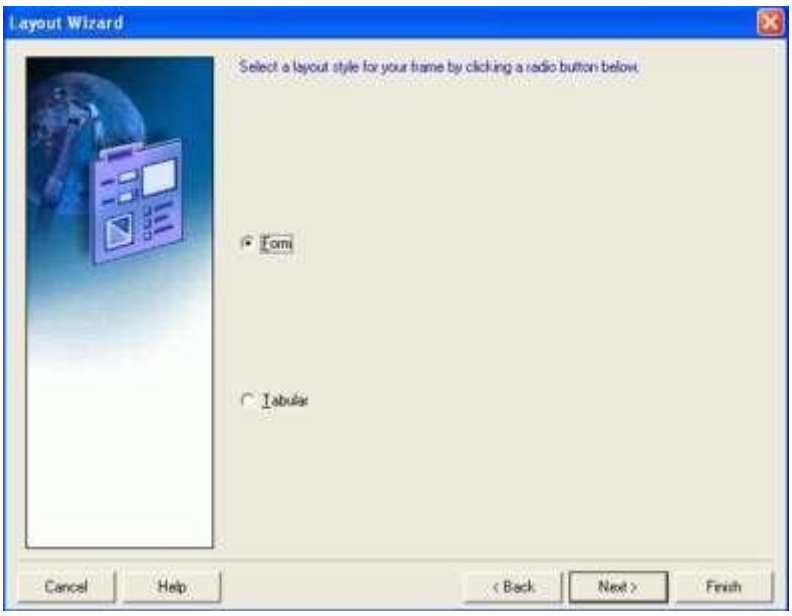
- You can use the Item Type pop-up list to select a type for each item. The default type is Text for each item.

Note: An item type can also be changed later to something else, such as a pop-up list or a radio group.

Step 3: **Style Page**

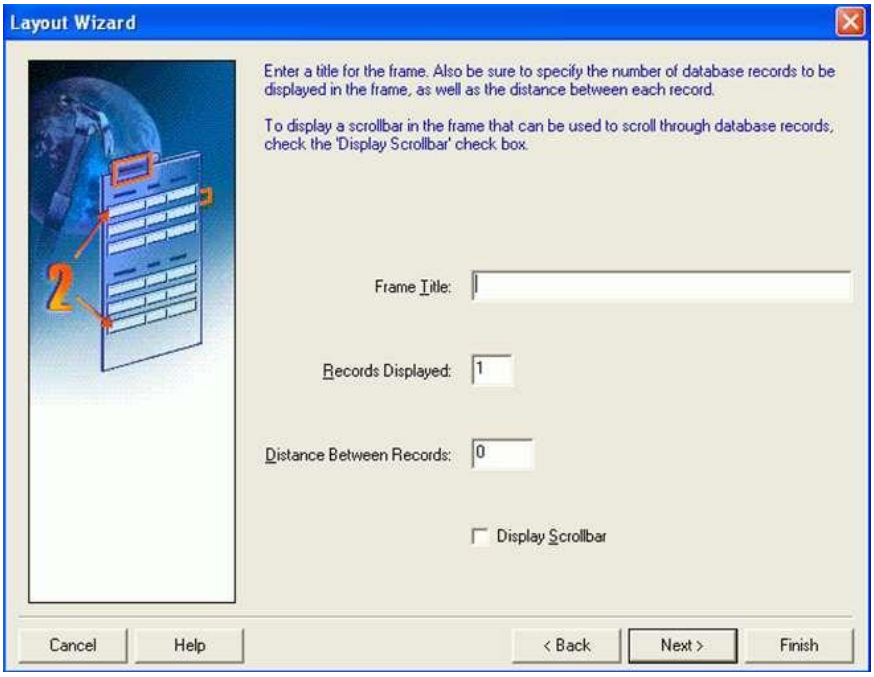
Select a layout style for your frame.
Your options are:

- Form (usually used to create single-record data blocks)
- Tabular (usually used to create multi-record data blocks)



Step 4: **Finish/Rows Page**

- Enter a title in the Frame Title field.
- Enter the number of records that you want to display at run time in the Records Displayed field.
- Enter the physical distance (in the coordinate system unit of the form) between records if you are displaying more than one record at a time.
- You can select the Display Scrollbar check box to display a scroll bar next to the frame (common for multi record data blocks).



Click Finish to create a new frame and lay out the selected items for the new data block. The Layout Wizard steps are complete.

Note: After you complete the Layout Wizard steps, you can view the layout in the Layout Editor, where you can customize or modify the layout if necessary.

3.3 The Canvases

If you create a two Data blocks and both are placed on the same Canvas (Page).

Controlling the Behavior of Data Blocks: Setting Scroll Bar Properties in the Scrollbar group of the Property Palette, you can set numerous properties to the appearance and function of the data block's scroll bar. Some of these properties are:

Show Scroll Bar: Specifies whether Forms Builder should create a scroll bar for the data block. To delete an existing scroll bar, set this property to No.

Scroll Bar Canvas: Specifies the canvas on which the data block scroll bar is displayed. The specified canvas must exist in the form.

Scroll Bar Orientation: Specifies whether the scroll bar should be displayed horizontally or vertically

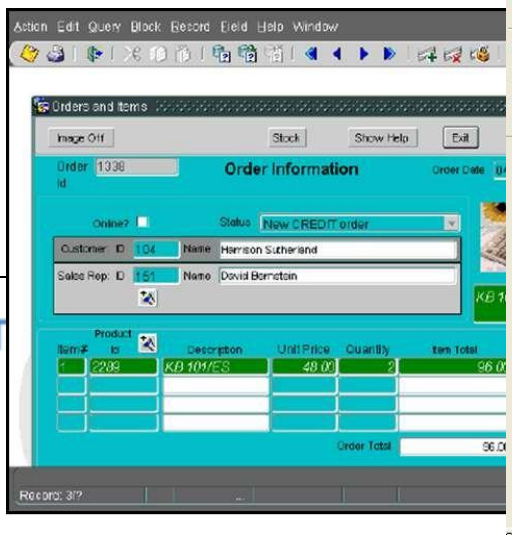
Scroll Bar X/Y Position: Specifies the x and y coordinates (measured in the coordination system units of the form) where the scroll bar displays on the canvas. The default value for both coordinates is 0.

Scroll Bar Width/Height: Specifies the width and height of the scroll bar

3.4 The Content of Canvas

The sample canvas, with several business flow as shown below. This is called canvas content. First make the content based on Data Block and Control block details. The GUI creative flow will decide screen. Normally we define this in Template and use the template as standardized pattern especially on Fonts, Color, Icon Jpeg and even on Scroll bar Patten

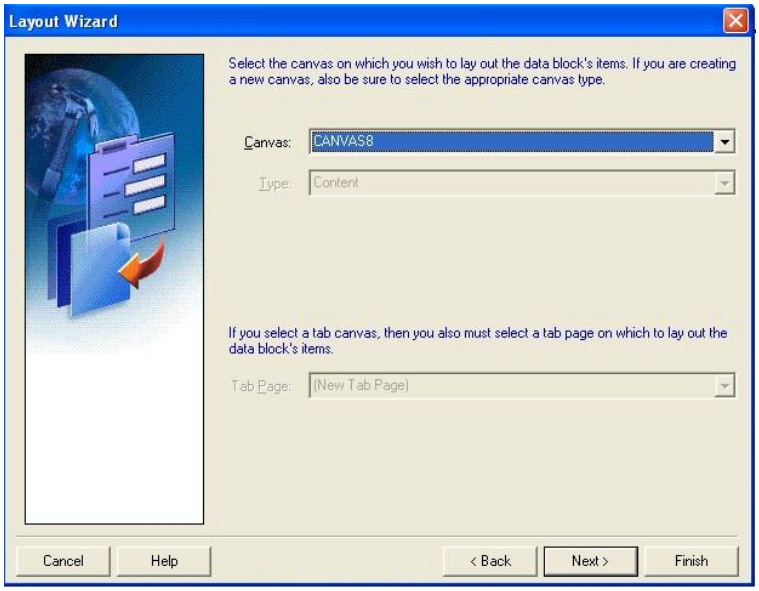
3.5 Creating a Canvas



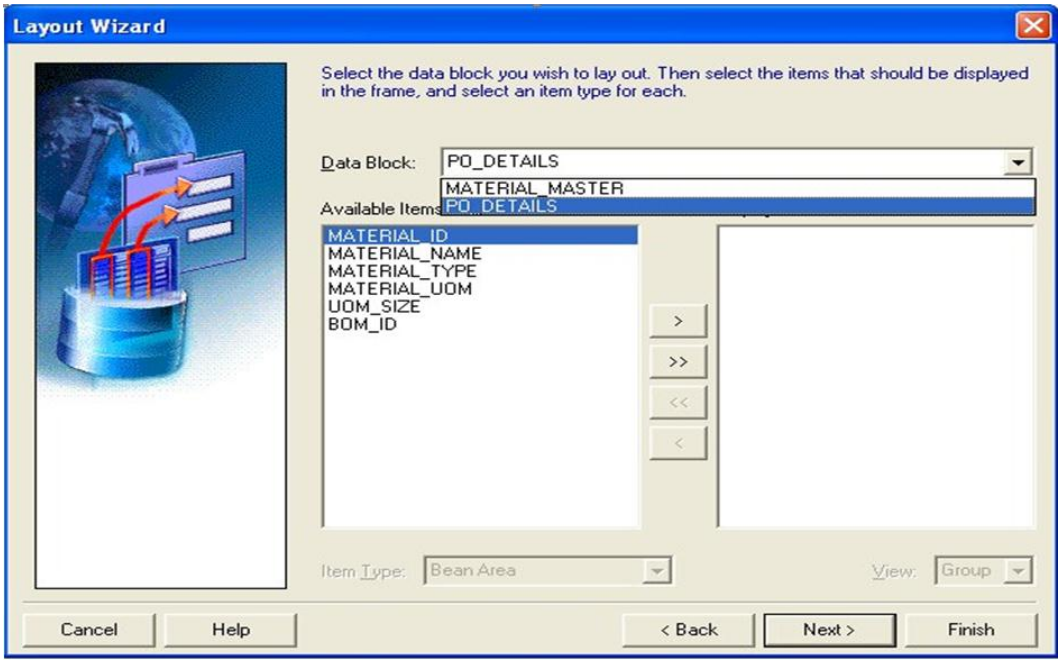
The Continuation of data model on *Material – PO Master –Detail creation*, Place the control on *Canvases and Right* Click and Select Layout.

The Immediate step can be create a canvas. If it is the first time to launch the Layout Wizard then new Canvas can be created, else give a chance to either create a New or Select the Canvas.

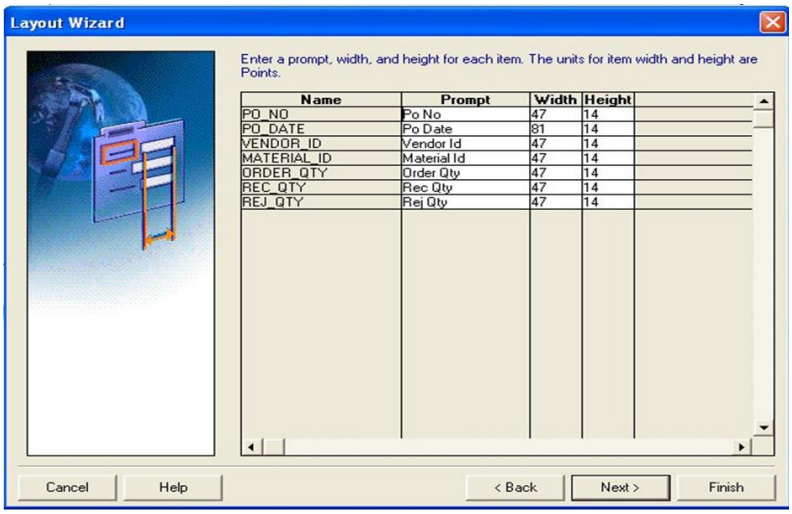
At any time through wizard to create a Canvas, then default name can be implemented.



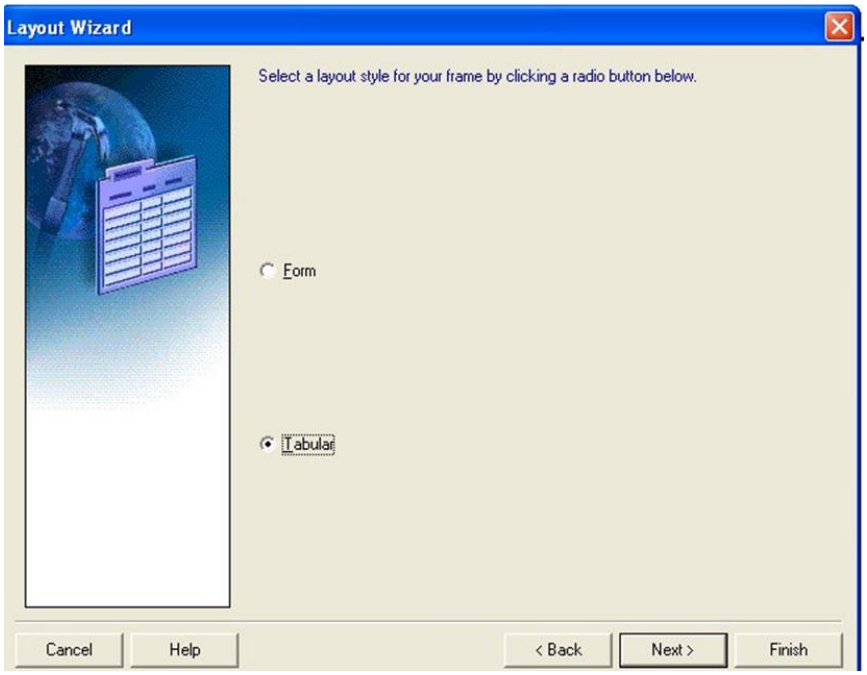
Now a chance to select the data block on which Canvas. The Good practice is as per business flow path select the block. Don't' select random approach, which will need redesign to result high cost of time.

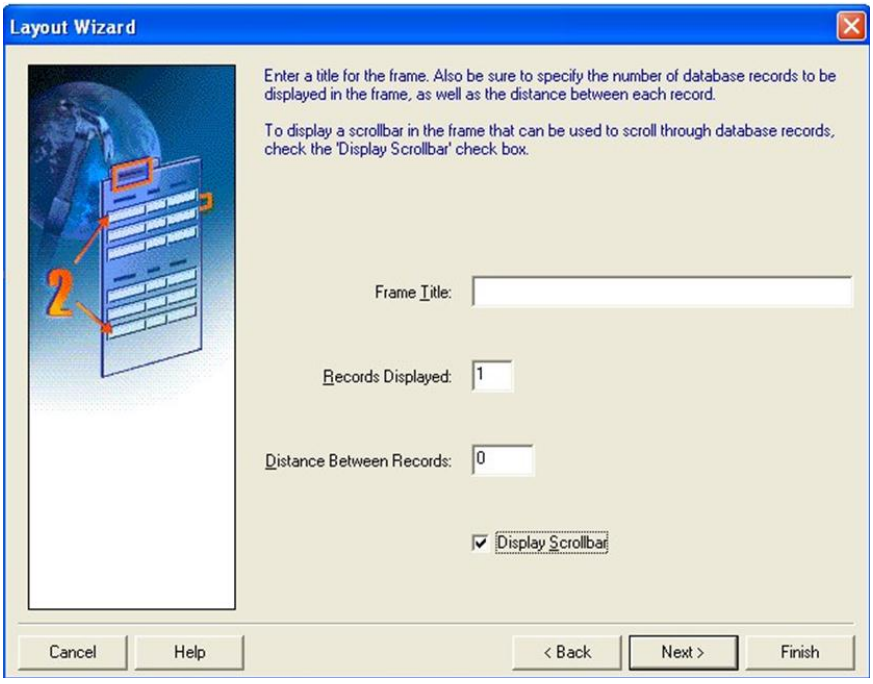


This screen can give an opportunity to change the Field's name prompt. This name is as per Database one, but the prompt will be our need, also the Height & Width. The Object can discuss this in detailed manner



Select the Layout style, which will decide either Single Record Block or Multi Record Block. The default is Single record one. The Form is single Record Block the Tabular is Multi-Record Block



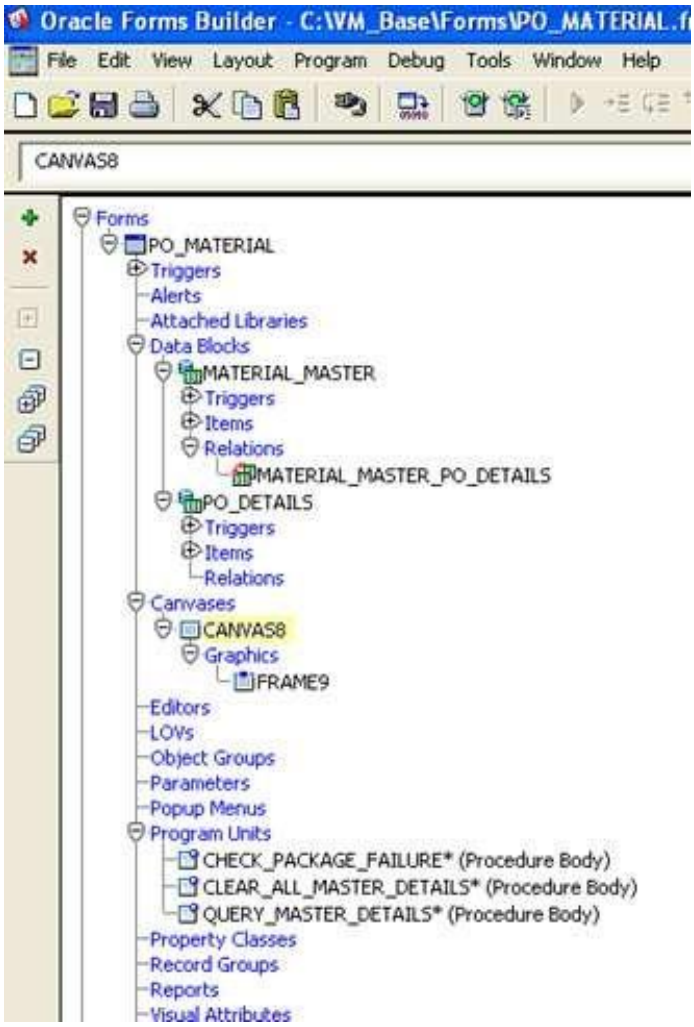


If you select the Multi-Record No of records and Scroll bar options are enable.

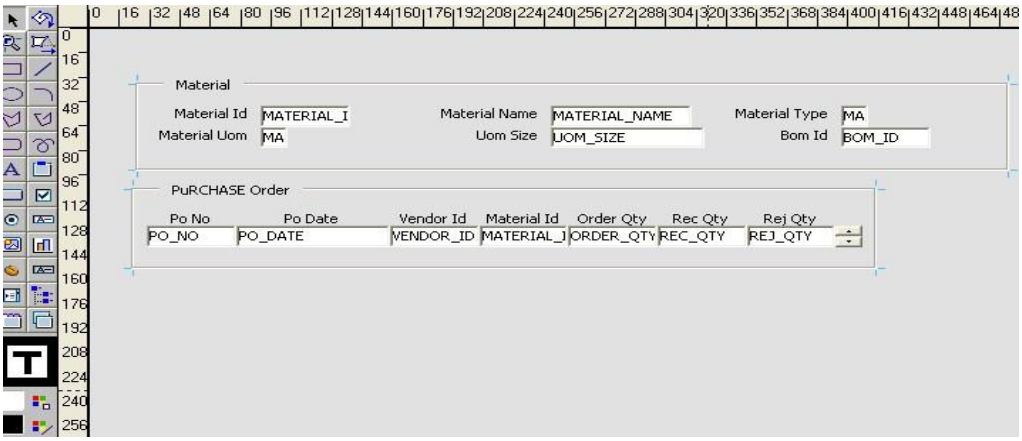
The Frame Title will use to simplify the screen handling. Any time a Single Record can modify into Multi Record block or vice versa

Finally click on Finish and system automatically bring it to Canvas. The save the entire form with data block and Layout block is called one full basic form development. File > Save and save on local OS file. The Form development file is called .FMB

The Basic Form Builder's wizard sections as below



The Basic Form Builder's canvas have two blocks details as below

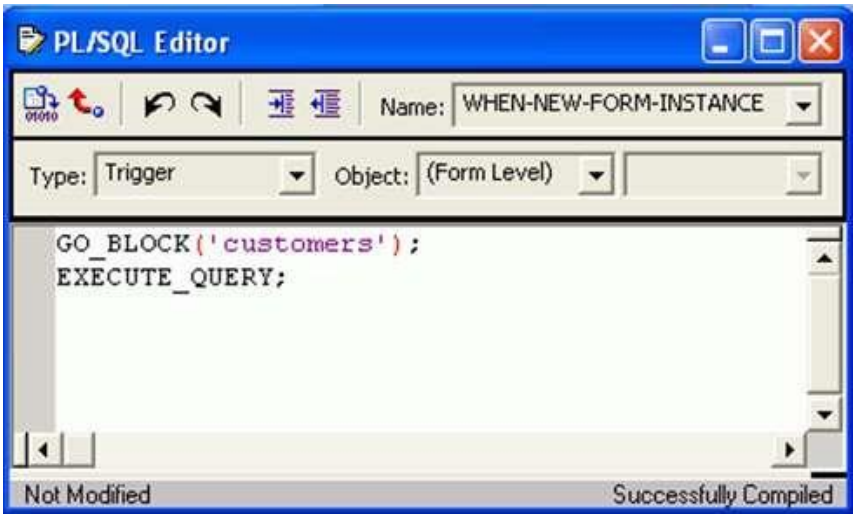


3.6 PL/SQL Editor

The PL/SQL Editor enables you to incorporate PL/SQL code objects into your form. Code objects in Forms Developer include event triggers, subprograms (functions and procedures), menu item commands, menu startup code, and packages. You enter and compile code in the PL/SQL Editor. You will learn more about the PL/SQL Editor in later lessons when you use it to code triggers in Forms Builder.

With the PL/SQL Editor, you can:

- Use PL/SQL in Forms
- Enter and compile code



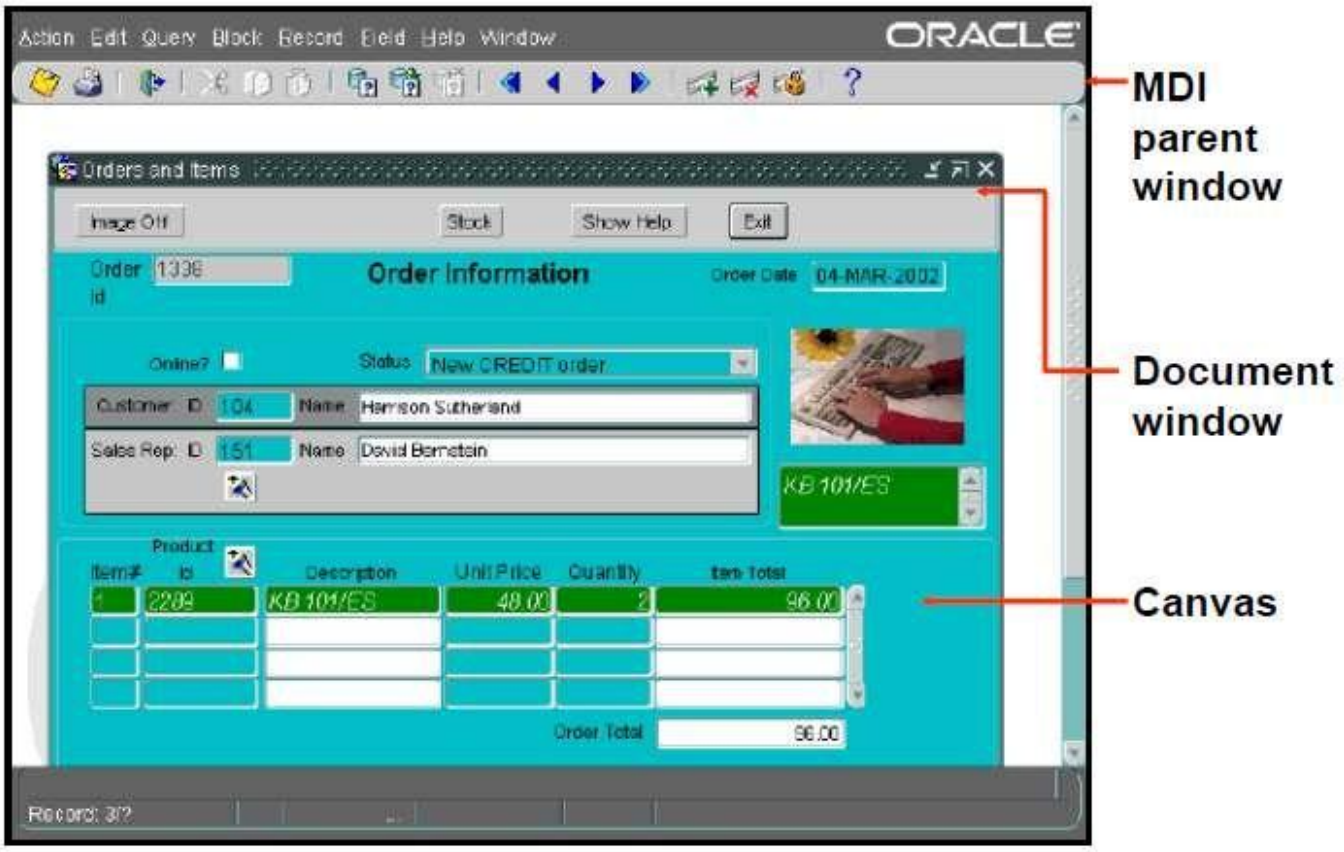
3.7 Object Moving, Resizing, Alignment, Grouping

A canvas is a surface inside a window container on which you place visual objects such as interface items and graphics. It is similar to the canvas upon which a picture is painted. To see a canvas and its contents at run time, you must display it in a window. A canvas always displays in the window to which it is assigned.

Note: Each item in a form must refer to no more than one canvas. An item displays on the canvas to which it is assigned, through its Canvas property. Recall that if the Canvas property for an item is left unspecified, that item is said to be a Null-canvas item and will not display at run time.

What Is a Viewport?
A viewport is an attribute of a canvas. It is effectively the visible portion of, or view onto, the canvas.

The Canvas, and Viewport



Forms Builder offers different types of canvases. A content canvas is the base canvas that occupies the entire content pane of the window in which it displays. The content canvas is the default canvas type. Most canvases are content canvases.

- Base canvas
- View occupies entire window
- Default canvas type
- Each window should have at least one content canvas

Canvas Property:

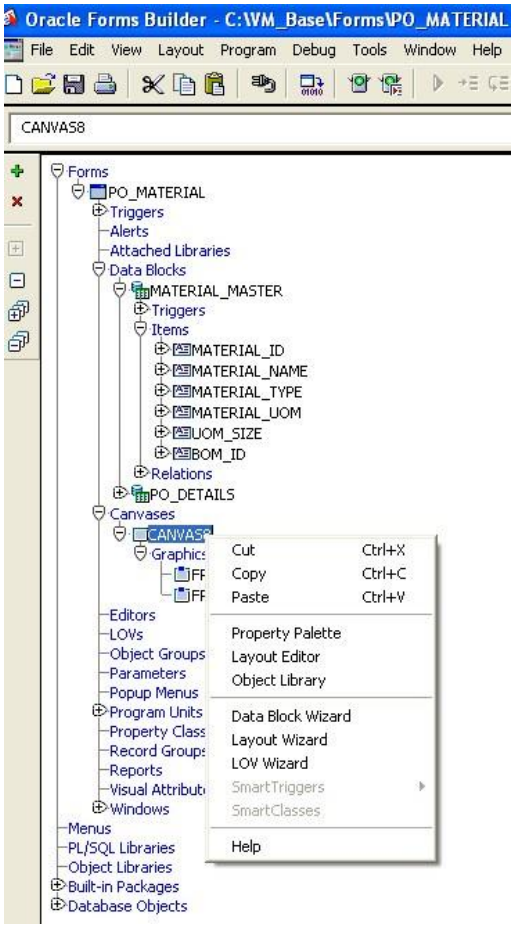
Right click on particular Canvas and select the Property Palette. The canvas properties have 3 major sections called General, Functional, and Physical. *The box section on property*

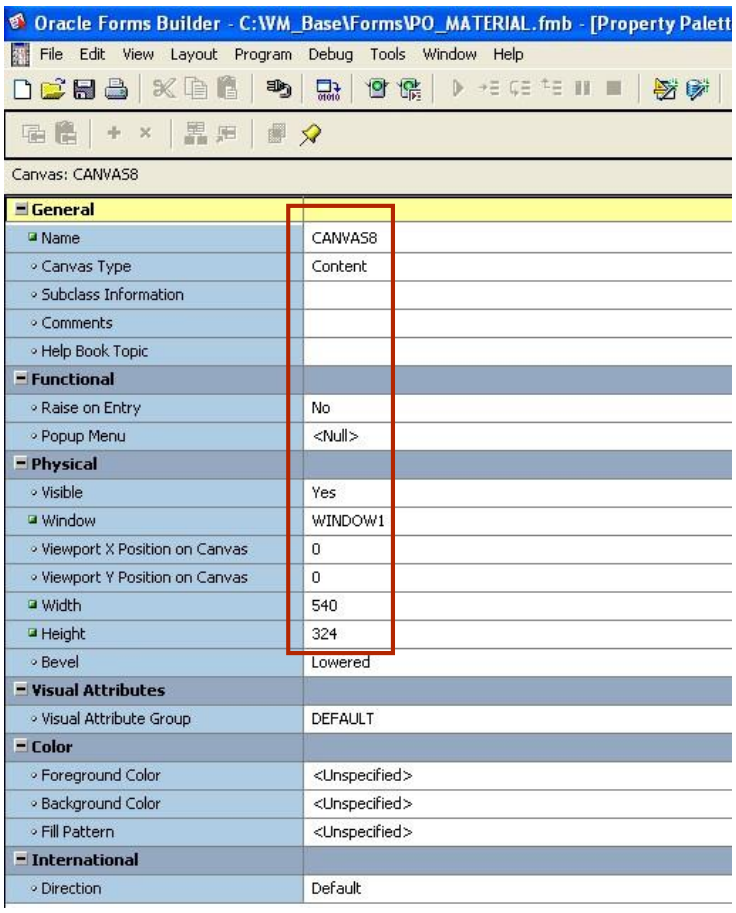
On General:

- The *Name* value use the change the default name to your name.
- On *Canvas Type* default value is Content. Other types are Stacked, Horizontal, Vertical and Tag all are for special purpose.

On Physical:

The Width and Height is change the size of the canvas. This value will compatible with WINDOW value





After this , we will go to the next study guide in this series named below.

 Next Reading: “Oracle Forms Study Guide – Day3.pdf”