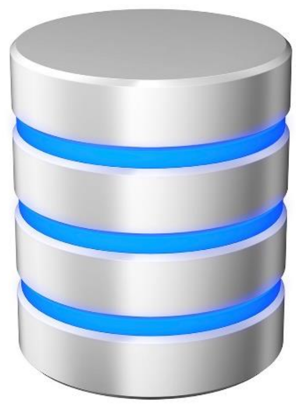
Microsoft Access

Training

Part II



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Introduction:

لما كانت قوة أى مؤسسة تكمن فى سرعة إتخاذها القرار ومواجهة تغيرات السوق والمنافسة ونقل المؤسسة من مكانة إلى أخرى أفضل عن طريق الحصول على أكبر عائد ، وتقليل التكاليف ومعرفة مواطن القوة والضعف فيها وفى البيئة التى تحيطها ، ولأن البيانات والمعلومات هى القوة الاساسية الداعمة لاتخاذ اى قرار باى مؤسسة ، ولما كانت البيانات فى حد ذاتها لا تعين على اتخاذ القرار الصحيح ، ولكن يلزم لها ان تجيب على الاسئلة المحددة والدقيقة و الدائرة فى اذهان متخذى القرار حتى يتثنى لهم الرؤية الواضحة للامور على اساس متين يعول عليه بعد إعدادها وتقديمها فى صورة تقارير ومخططات واضحة جليه.

ولما كان التعامل مع قواعد البيانات والحصول على البيانات المطلوبة بصورة دقيقة وسريعة هو أمر هام لكل من يعمل في مجال البيانات أو من أراد أن يغزو عالم قواعد البيانات ،لذا فقد كان لزاما على كل من يهتم بأى من هذه الأمور ان يتعلم مبادئ قواعد البيانات وكيف تعمل وكيفية التعامل معها ، حتى تكون أساس له في المجال الذى اختاره سواءا في تحليل البيانات أو تصميم البرامج التي تعتمد في خلفيتها على الاتصال بقواعد البيانات أو البدء فى تعلم إدارة قواعد البيانات وتصميمها.

وعليه فقد قمت باعداد هذا البرنامج التدريبى الذى يشرح للمتدرب كيف تعمل واحدة من اقوى واجمل واسهل قواعد البيانات في العالم وهى **ميكروسوفت أكسيس** .

ولق قمت باعداد هذا البرنامج التدريبى بطريقة مبسطة ومتدرجة للتدريب على تصميم وانشاء قاعدة بيانات كامله مستغلا معظم إمكانات البرنامج مع التركيز على طريقة عمل قاعدة البيانات في الخلفية واللغة التي تعمل بها حت تكتمل الصورة امام المتدرب فيتعلم أسس قواعد البيانات في اى برنامج متقدم اخر يود استكمال طريقه في هذا المجال ومعرفة الطرق السهلة البسيطة التي يتيحها برنامج الاكسيس امامه لخروج قاعدة بيانات سريعة ودقيقة للنور في وقت قياسى بالمقارنة بباقى برامج قواعد البيانات.

ولقد حرصت ان تكون التدريبات مركزو ووافيه حتى يستوعب المتدرب الفكرة مع عمل مشروع مواز يقوم المتدرب بانشائه من الصفر حتى الاكتمال فتتأكد لديه المعلومة حينما يختبرها بنفسه ويثق في قدرته على انشاء قاعده تفى بمتطلبات العمل الموكل اليه.

وانني اذ اقدم هذا العمل الى زملائى في الوطن فإننى اقصد زيادة معرفتهم وقدرتهم على التفكير العلمى السليم في الأمور ومواجهة المشاكل اليوميه بصورة منطقيه وكذلك نقل الخبرة اكتسبتها خلال أعوام عديدة في مجال التعامل مع قواعد البيانات بأشكالها المختلفة .

القاهرة 21 أغسطس 2023

مهندس سعيد فوزى محمد هدى
مدير مركز المعلومات – مدير الجودة
إدارة العطاءات
المقاولون العرب

Part II:
Interacting with Users

Chapter 9: Form Basics

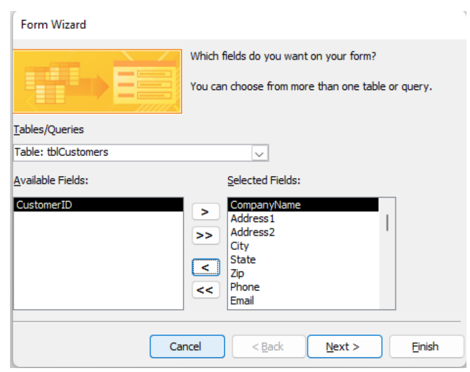
- We usually do not enter data directly into tables.
- We use forms to make it easy.

Benefits of Using Forms

- Provides a user-friendly experience to manage and view records
- Helps you be more selective of what information can be seen
- Records are arranged with design layouts that tables and queries cannot do
- Data can be locked and prevented from being either edited or deleted
- A richer set and more flexible formatting options with more properties available
- Better automation (Macros and VBA code) can be added to a form
- A better way to engage with users via dialog and message boxes
- Provides easier ways of navigation around an access database

Lab 9A: Creating a Form

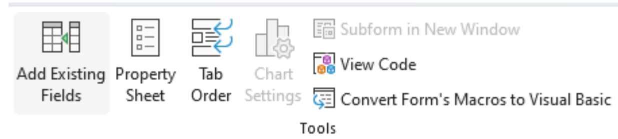
A. Create a Form Using Wizard



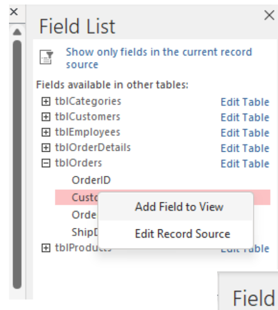
1. Use file: **Lab09A_Start.accd**.
2. Go to Create ➔ Forms Group ➔ Form Wizard
3. Chose **tblCustomes**.
4. Include all fields except CustomerID.
5. Use >> then <
6. CustomerID is an AutoNumber.
7. Choose Columnar as Layout.
8. Name the form: **frmCustomers**.
9. Go to form **Layout View.**
10. It is the view you can change design while seeing your data.
11. Change Title to: **Customer Information Form**.
12. Expand and adjust the title.
13. Go back to **Form view.**
14. Close and save your form.
15. Let us create another form using Wizard.
16. Create a form based on tblEmployees
17. We need all fields except EmployeeID
18. Go to Layout View
19. Rename the title to **Employees Form**
20. Save as **frmEmployees** and close.

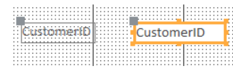
B. Creating a Form Using Design View

21. Go to Create ➔Forms Group➔Form Design
22. In Ribbon Tab Form Design click on Add **Existing Fields** in the Tools Group to open **Field List** Pane.

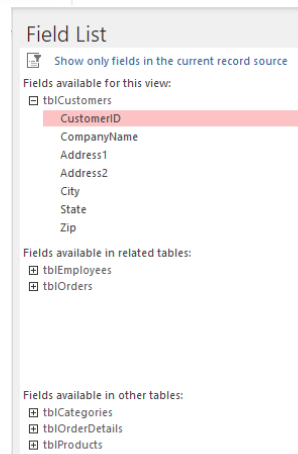


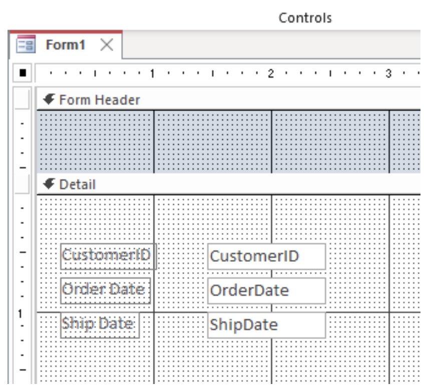
23. Click the link: **Show all Tables**.
24. Expand **tblOrders**.
25. Right click field CustomerID and chose: **Add Field to View**.
26. Access Add **Label** and **Field** to your form.
27. Notice now that the field list changed to show:
    - Fields from tblCustomers table.
    - Fields available in related tables
    - Other tables and their available fields.



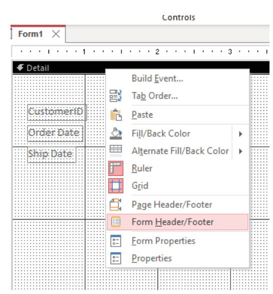


28. Expand **tblOrders** table again and add field **OrderDate**.
29. You can double click.
30. Notice the tbleOrders has expanded in the **Fields available in this view** area.
31. Add **ShipDate** Field.
32. Go to **Form View** to see your design.
33. Go back to Design View.
34. Notice you are working on the **details section**.
35. Right click the section and chose **Form Header Footer**.
36. Expand the Header section so you have more space.

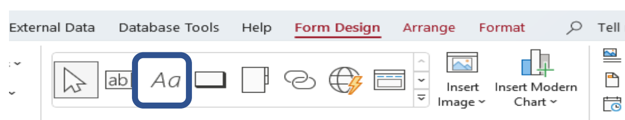




37. Notice that you have many controls under the form Design Ribbon.

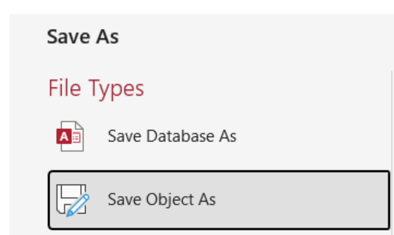


38. Select **Label** Control.
39. Draw a label in Header section.
40. Write Title: **Customer Order Date Information**.
41. Click outside label and arrange the label.
42. Go to **Form view** to check.
43. Save the form as **frmCustomerOrderDate**.

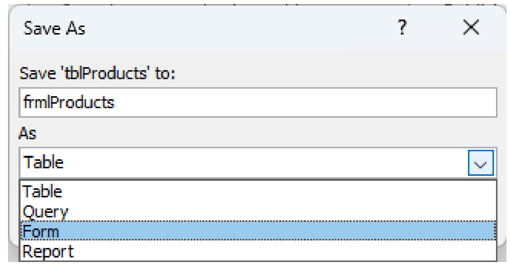


C. Creating a Form from a table

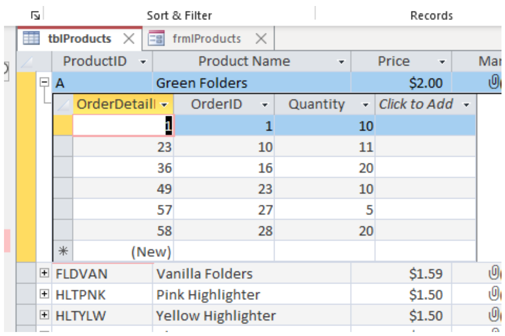
44. Open **tblProducts** in datasheetview.
45. Go to File ➔ Save As
46. Select **Save Object As** and Click **Save As** button.
47. Under As select **Form** and change the name to be **frmProducts**.

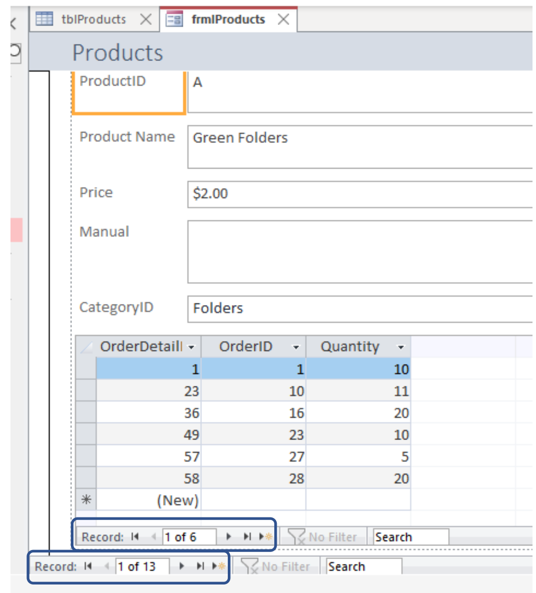


48. The form opens in **Layout View**.
49. Delete the Icon form access add.
50. Change the Title to: **Product Information Form**.
51. Notice that because I created the form from the table and as table show details of each record also the form shows details of each record.

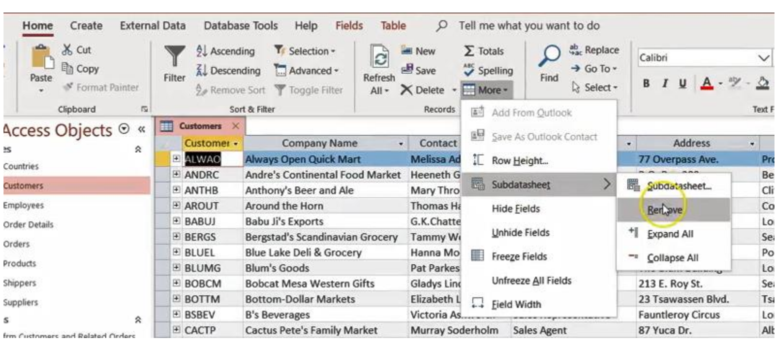


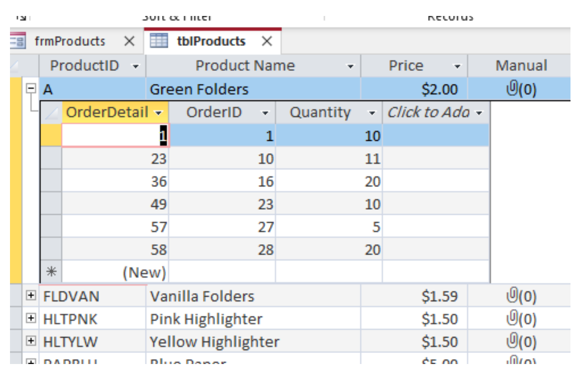
52. Notice that you have two Record Navigators one for the main form and one for the sub form.





53. Go and navigate through Records of main and sub form.
54. If you want to change the behavior of Access to include the related tables when creating the form do one of two:
    - Use the Form design and manually add the fields.
    - Or change this option in the table first.
55. Open **tblProducts** in datasheet view.
56. Notice it has + sing beside each record.
57. When click + it show related records from **orderDetails** table.



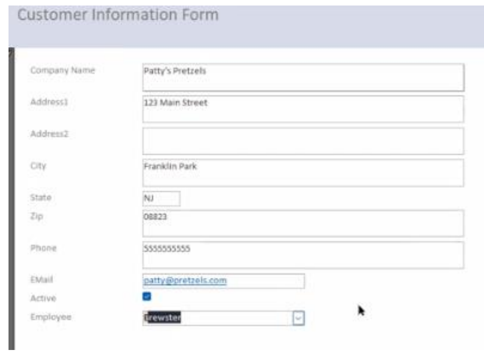


58. Go to Home➔Records➔More➔Subsheets➔Remove.
59. Close the table **tblProducts** and save.
60. Now select the table **tblProducts** in the Navigation Pane.
61. Create ➔Forms➔Form
62. A form will appear in layout view with no related tables.
63. Close and save your new form as **frmProdutInformation.**

64. If you want get back the **subsheets** to your table again you have to chose the sheet manually this time.
65. Try it yourself.
66. Right click on tab and choose close All.

D Adding Record to a Form

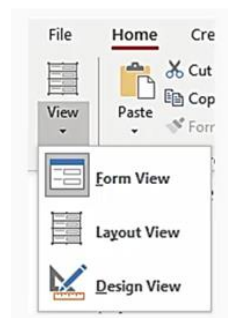
67. Open **frmCustomer** form and add a new record.
68. Press the tab button to save the record.
69. Close the form.
70. Go to **tblCustomers** to see the new record added.



Form Three View Modes

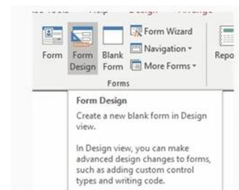
You have 3 forms mode you can chose from in the home tab.

- From View.
- Layout View.
- Design View

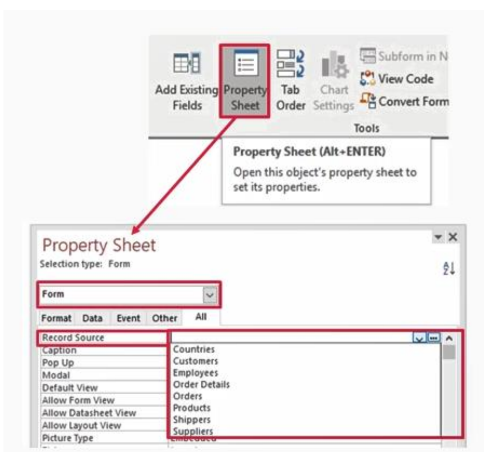


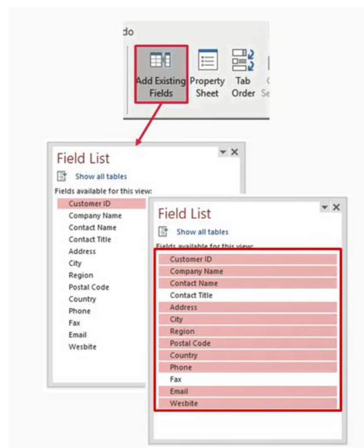
Chapter 10: Advanced Form Design Techniques

Form Design Canvas



- You can create a blank form from scratch and start the design step by step.
- You always start by clicking the form design icon.
- This will open a form in design view.
- Before you start your design, you have to answer 3 questions:
  - What type of form is being designed?
  - What will be the role of the form?
  - Will it be attached to a table or query?
- The first thing you do is the data source if the form is bound or unbound to a data source.
- To bound your form:
  - Click Property Sheet icon on the ribbon.
  - Make sure that item **Form** is selected.
  - Under **All** data tab click the drop-down list of Record Source
- Secondly you deiced which field from the data source you will include?



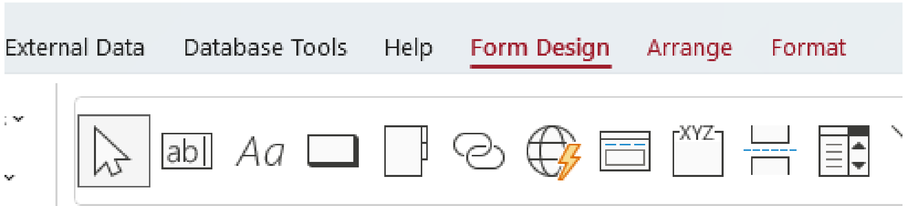


- When you select a field access add textbox for the field and a label.

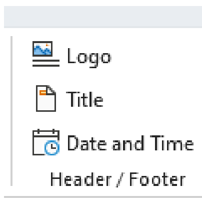
Lab 10A: Creating Form Using Blank Form

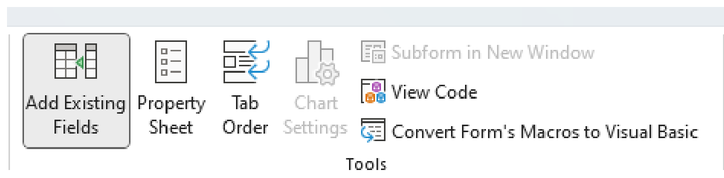
1. Use file **Lab10A_Start.accdb**.
2. We want to Create a form for Customers
3. Create➔Forms➔Blank Form.
4. Go to design view.
5. You can select fields from a table, through the **Field List** window and Access will add this table as a Record Source for the form.
6. Or you can Select Customers table for Record source in the property sheet.
7. Open List field and Double click fields Customer ID, Company Name, Contact name, Contact Title.

8. Save your form as **frm Customer Profile**.

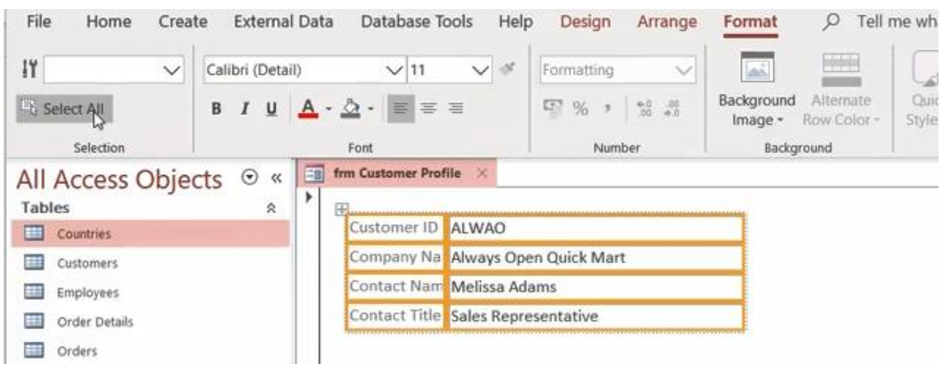


9. Notice that you have 3 tabs in the ribbon for form design view.
10. In **Form Design** Tab is where you can add Controls to the form
11. You can also add Logo, Title or Date and Time Field.
12. In **Tools** group you can show Property windows and field list …etc





13. In **Arrange** Tab you can Group controls and arrange the space, alignments ..tec.
14. In **Format** tab you can apply format to selected control.
15. You can choose **Select All** to select all controls on the form.

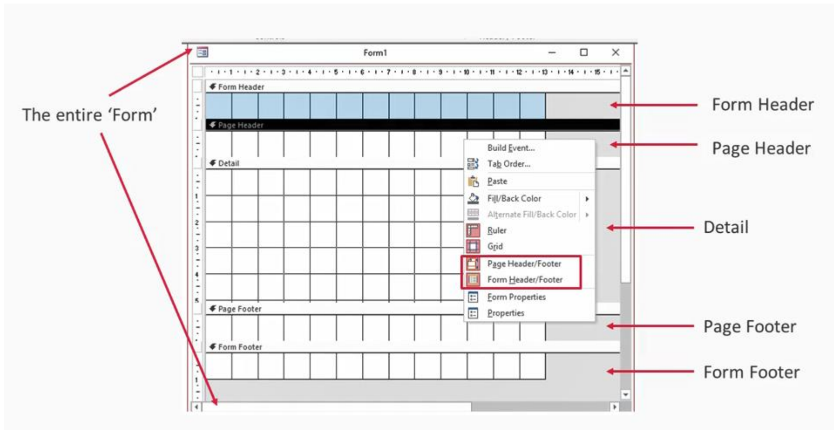


Notice those properties:

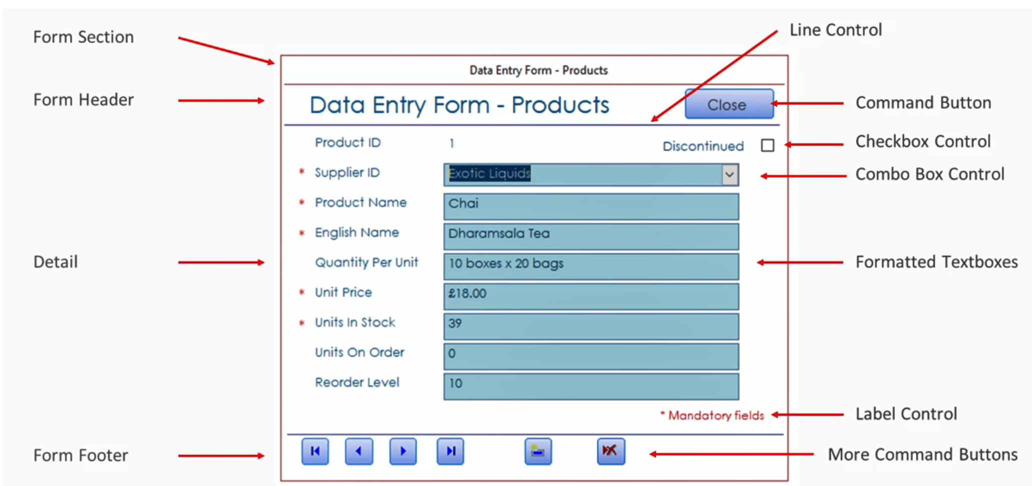
Make changes in the **Property Sheet** then Save and see results in the View mode for the following:

16. Open form **frm Customers**.
17. Go to Design view.
18. Notice the property: Form➔Other➔**Pop Up** = Yes.
19. Now try those properties (You can Double click to change Values Yes/No)
20. Form ➔Format➔ Caption: **Company Profile (**it changes the Name on tab of the form).
21. Form➔Format➔**Record Selector** = No.
22. Form➔Format➔ **Navigation Buttons** = No.
23. Form➔Format➔Scroll Bars=Neither.
24. Form➔Format➔**Control Box**=No.
25. Now change:
    a. Form➔Format➔Control Box= Yes
    b. Form➔Format➔Min and Max = Neither.

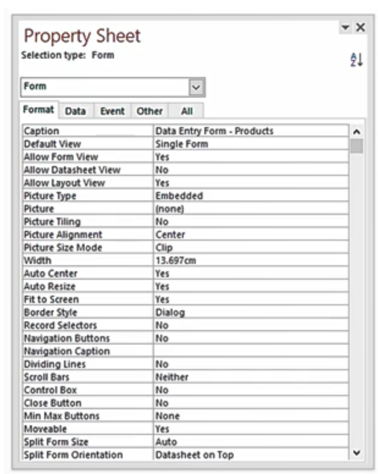
Form Sections



Form Controls



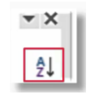
Form Property Sheet

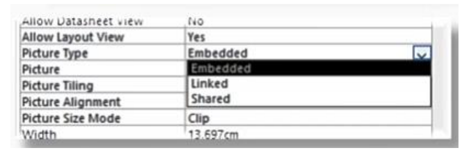


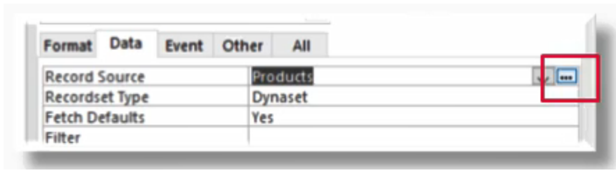
- Property sheet is dynamic and reflect the selected Object.
- **(Alt+Enter)** toggles property sheet On and Off.
- There are tabs across the property Sheet.

- each tab groups some properties to make it easier to find.
- **Format** tab is for formatting and look and fill.
- **Data** tab is for handling connectivity with the data source.
- **Event** tab is for actions and automation.

- **Other** tab for mucinous properties.
- **All** tab show all properties.
- You might want to sort your property descending or ascending.
- Some properties can be chosen from drop down list.
- You can toggle values by double clicking.
- Some properties have ellipsis button to pop up another window.



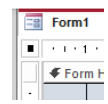




Lab 10B: Continue Exploring Form

1. Continue Use file **Lab10A_Start.accdb**.
2. Create a blank form.
3. Right click and show form header and footer.
4. Press **Alt+Enter** to show the property sheet window.

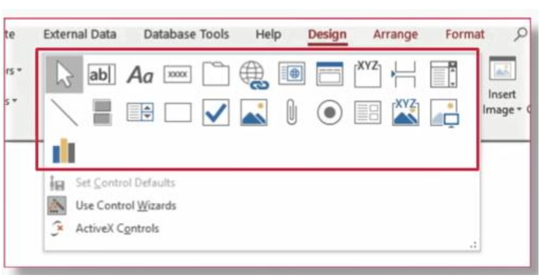
Adjust the width of a Form



5. Select the form first from the list or click the top right corner.
6. Change the width.
7. All sections widths change.
8. Each section has a height property only no width.
9. Set Form➔Format ➔Width= 15cm.
10. Select Header section
11. Notice you have:
    a. Format➔Visible (to show or hide the section).
    b. Format➔Back Color (to change the color of the section).
    c. You can pick from the pre-defied list of colors.
    d. You can click the ellipsis to choose your preferred color.

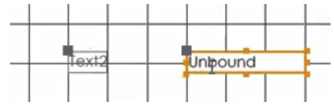
Form Toolbox Controls

- Under Form Design tab you can find the Toolbox Controls.

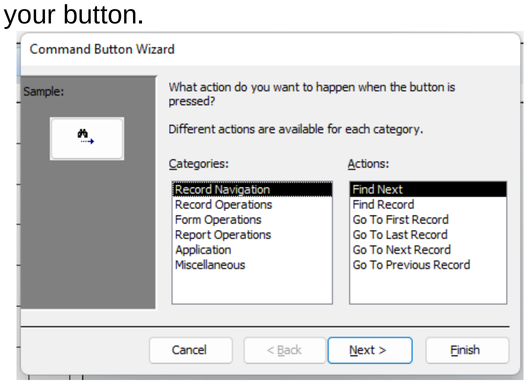


- There are about 20 controls + Active X Controls.
- You can find In order: Text Box, Label, Command Button, Tab Control, Link, Option Group, Combo Box, List Box, Check Box, Option Button, Image, Chart Object.
- Notice you have **Use Control Wizards**, If you enable a wizard works when you use Controls like Command Button, Combo Box, List Box, Option Group to help you.

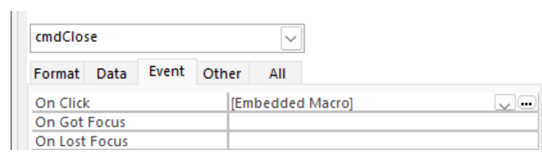
12. Now drag a text Box to the Details Section.



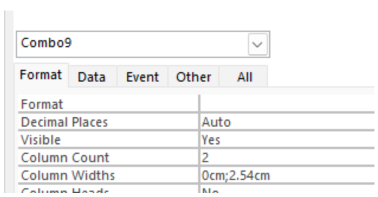
13. Notice that Access adds a label too for the control.
14. Try to move, they move together.
15. But There are two handles for each you can move each one separately.
16. Notice the text box is **unbound** means there is no field associated with it from the table.
17. You must bind your form first to a table.
18. Bind your form to the Customers table.
19. In the Field list Drag Customer ID to the form.
20. Notice that the new text box is bound to **Customer ID** Field.
21. Go to your text box and bound it with company name and change label manually.
22. Disable the **Use Control wizard** and add **Command Button** and **Combo Box**.
23. From the **Ruler** in the left select all controls and delete them.
24. Enable Use Control Wizard.
25. Create a command button on the Header.
26. Wizards starts.
27. Categories and Action lists are available to choose action for your button.
28. Chose Form Operation ➔ Close Form.

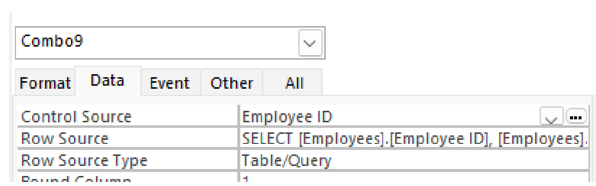


29. Caption: **Close**.
30. Command Name: **cmdClose**.
31. Select the button.
32. In its **property sheet** go to **event** tab and **On Click** event.
33. You will find **Embedded Macro** has been assigned.
34. If you click on the ellipse, it will take you to Macro Window.
35. Close Macro Window.
36. Add fields to the form Customer ID , Company Name



37. Create a **Combo Box** in the details section.
38. Select the values from the Employees Table
39. Assign the Combo Box to **Employee ID** field.
40. Save your combo as **cmbEmployees**.
41. Notice the Format ➔**column width**,**Column Counts** property.
42. Also Data ➔ **Bound Column** Property

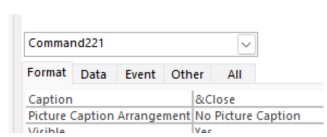




43. Close your Form1 and do not save.

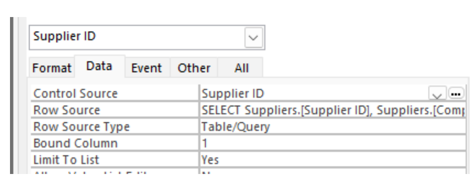
Exploring some Control Properties

44. Open **frm Products** .
    Select Close Button.
45. It has Event➔On Click event.
46. Create Accelerated letter to it by adding **&** before **C.**

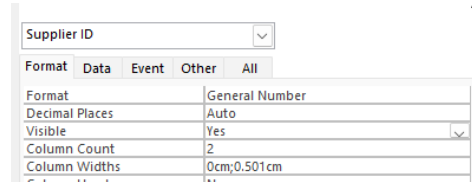


Select Supplier ID Cobo Box.

47. Notice Data ➔Row Source
48. It is a SQL statement from the query he built to get data.
49. Its value is bound to the first Colum retrieved.
50. Also notice Format➔Column Count and Column Width.

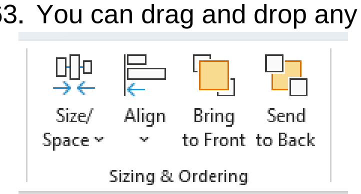


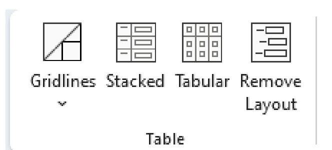
51. Notice the first column width is 0Cm (We do not want to see). But it must be present to store its value.
52. The second column has a width to make me pick the item.

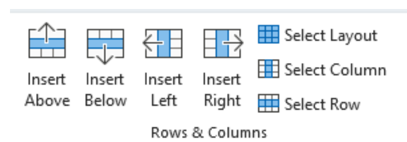


Stacking Feature

53. Open **frm Customers**
54. Click Arrange tab.
55. You can select multiple control by selecting 1st one the shift key and click the next to select all your controls.
56. Or you can drag your mouse to the area of controls to select them.
57. If you want to select all controls press **(Ctl+A).**
58. On the ribbon there is a **Sizing & Ordering** group to help you size and align your controls.
59. Notice you can stack controls to move them together.
60. To unstack the group use **Remove layout** Icon.
61. If you want to stack again select controls and click **Stacked** icon.
62. You can add rows or columns in the stacked area using **Rows & Columns** Group.
63. You can drag and drop any other control to make it a member of the stacked area.







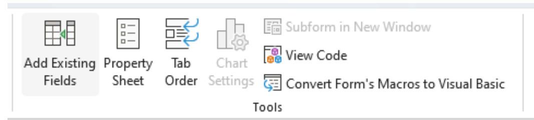
SubForms

- A Sub form is a form within a form.
- When you change the record in the main form, the subform will be updated with related records.

Lab 10C: Creating SubForms

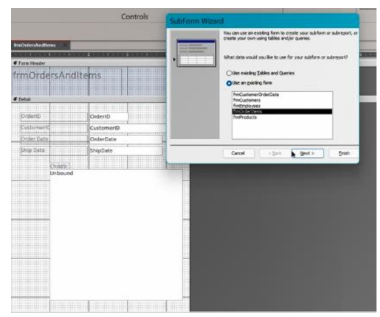
1. Use file **Lab10C_Start.accdd**.
2. We will create two forms in this task: **Main form** and **SubForm**.
3. Let us start using form wizard.
4. Create ➔ Forms➔ Form Wizard
5. Select table: **tblOrders**.
6. Select all fields
7. Click Next.
8. Select Columnar.
9. Name form **frmOrdersAndItems.**
10. Click Finish.
11. Only Orders are shown, and this will be our **Main Form (**Parent**)**.
12. Close your form.
13. Now let us create our subForm (child Form).
14. Create ➔ Form Design.

15. In Form Design tab ➔ Tools ➔ Add Existing Field.

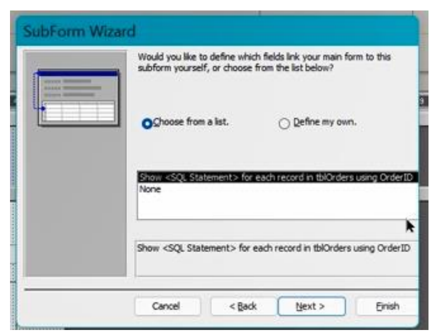


16. Click show all tables.
17. Expand **tblOrderDetails**.
18. Double click to add **OrderID** , **ProductID**, **Quantity** to your form.
19. Go to Form view to look at.
20. Save your form as **frmOrderItems**.
21. Close your form.
22. Open main form **frmOrderAndItems** in Design View.
23. Expand **Detail** Section down.
24. We want to embed the subfrom Here.

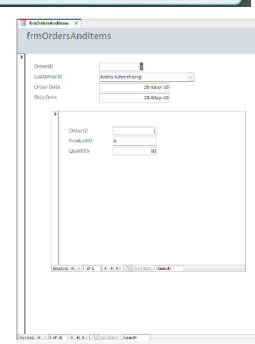
25. To do that use the control: **SubFrom**/**SubReport**
26. Before you do that make sure the setting of .**Make sure that Use Control Wizard** is Active
27. Now you can select Drag and drop the subForm/SubReport control to your form.
28. Now select and draw your subform.
29. You will get the wizard works for you.
30. Notice that there is a label for the new Control **Child9**: (for example)
31. Chose: **Use an existing Form**.
32. And select **frmOrderItems.**



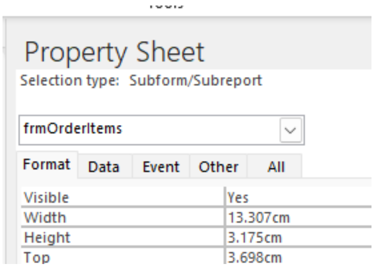
33. Click Next.
34. Chose which field in main form the subform will be filtered and show record according to and which field connected.
35. Keep the choice of Access.
36. Notice we have used **OrderID** in both forms to connect.
37. Click Next.
38. Accept the Label Access gave and click Finish.
39. Select the label of subfrom and delete it.
40. Go to form view and test it.

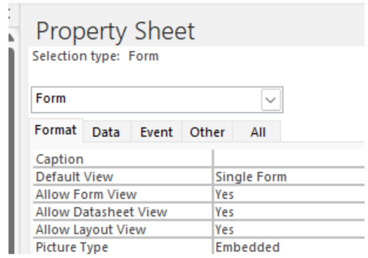


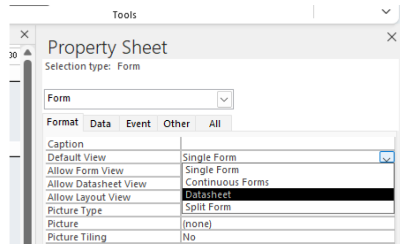
41. Make sure for each Orders in main form it shows the items of this order in the subform.
42. Notice you have two navigators.
43. One for main form and one for the subform.
44. Go to Layout View and Change label of the main form to: **Orders and Items**.
45. Save your forms.
46. It is too tedious to have two navigators in your forms.
47. Let us adjust that.
48. Go to Design view.
49. First select the Subform.



50. Open Property sheet.
51. Notice that it shows property of **sbform/subreport** object selected.
52. Now double click the subform to go to its properties (the property sheet shows **Form** not subform property).

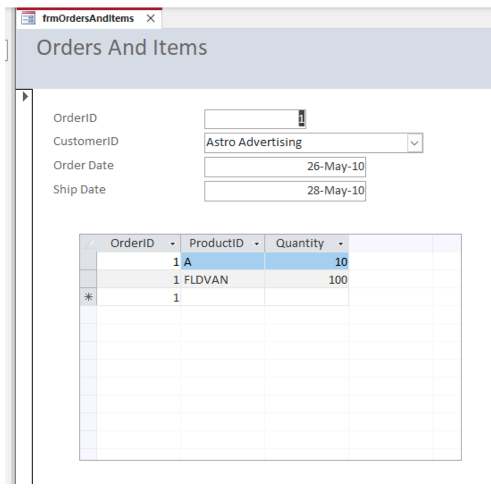






- Change Format ➔Data form View = Datasheet.

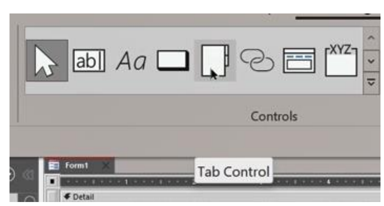
53. Change Format➔ Record Selector = No.
54. Change Format➔ Navigation Button = **No**.
55. View form in the View Mode.
56. Save and close form.



Tabbed Form

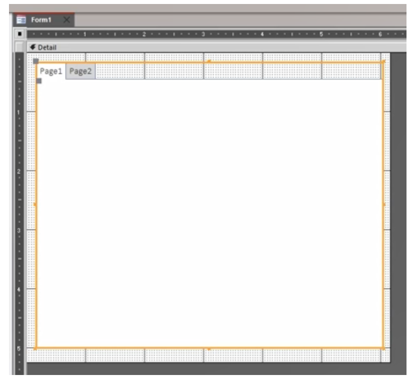
- Tabbed form has multiple pages.
- If you have a lot of fields of data, you might want to split them into multiple pages.

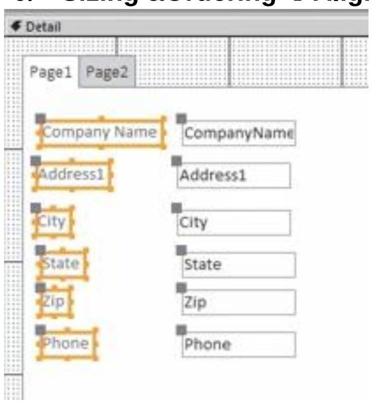
Lab 10D: Creating Tabbed Form

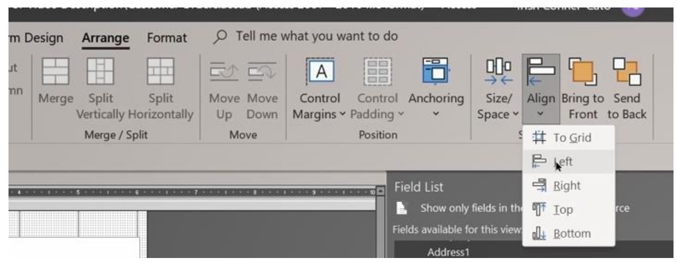


1. Continue using file **Lab10C_Start.accdd**
2. Create ➔Forms ➔ Form Design.
3. Use tab control from the Controls group in the Form Design Tab in the ribbon.
4. Click on control.
5. Go to the detail section of the form design and draw to cover nearly all the section.

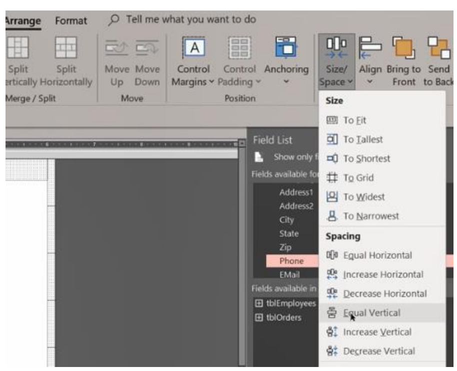
6. Notice you have a form framework with two pages.
7. In the field list expand **tblCustomers**.
8. **Do not Double click this time**.
9. Drag **CompanyName** Field and drop on the Page1.
10. Do not go far to the left, just leave space for labels of the field.
11. Drag **Address1** one field under.
12. Drag **City**, **State**, **Zip**, **Phone** to Page1.
13. Arrange fields and labels:
    a. Left click and hold mouse to select all labels.
    b. Go to Arrange tab in the ribbon.
    c. **Sizing** &**Ordering** ➔**Align** ➔**Left.**

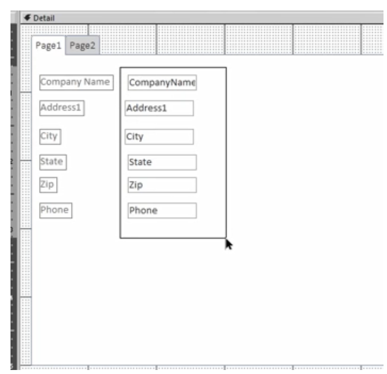




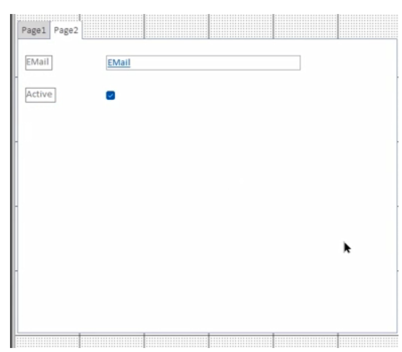


    d. Do the same and draw a selection marquee around the fields and align them to the left too.
    e. Select all and make sure all are spaced Vertically equally.
    f. **Sizing** &**Ordering** ➔**Size/Space** ➔**Equal Verticaly.**

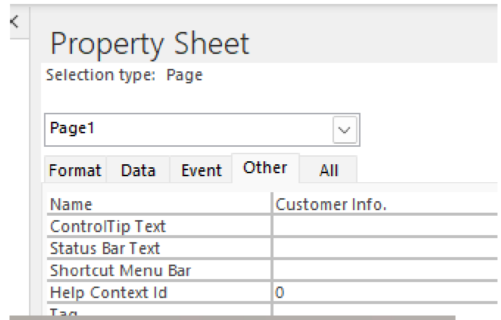


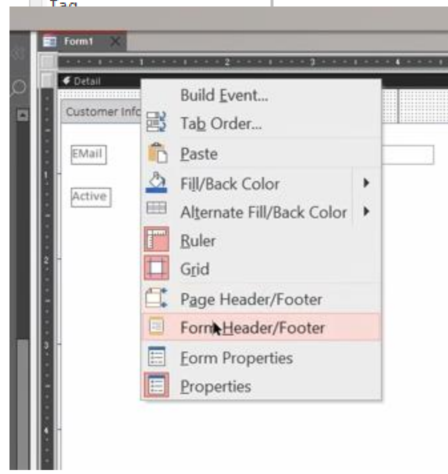


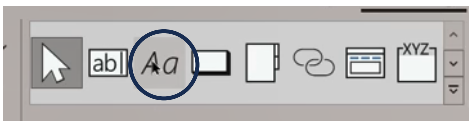
14. Now let us go to Page 2
15. Click on Page2 tab so you have it now selected.
16. Make sure it has a yellow border around.
17. Drag **Email** and **Active** fields.
18. Organize active label.
19. Align label and fields to the left as before.
20. Look at your form in form view.
21. Navigate between the two pages.
22. Go to **Page1**
23. Go to layout view.
24. Arrange the width of **companyName** field.
25. Go back to design view.



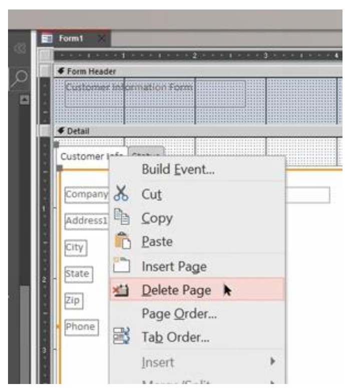
26. Let us name pages.
27. Open Property sheet.
28. Clock on Page one tab.
29. Go to Other tab in property sheet.
30. Chane Name to **Customer Info**.
31. Name Page2 : **Status**.
32. Let us now have a header section.
33. Right click detail section and choose Form Header/Footer.
34. Drag a label control to the header.
35. Write **Customer Information Form.**
36. Go to see your Form view.

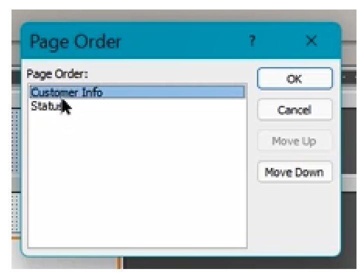






37. Notice if you're right click your tab control.
38. You will have a menu where you can add or delete pages.
39. You can change page order.
40. Close your form and save it as **frmCustomerInformation**.



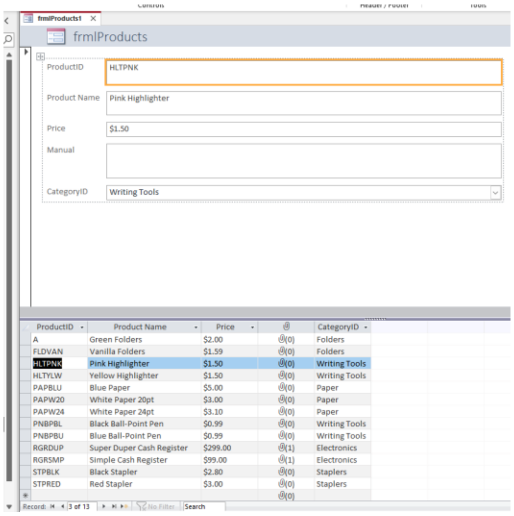


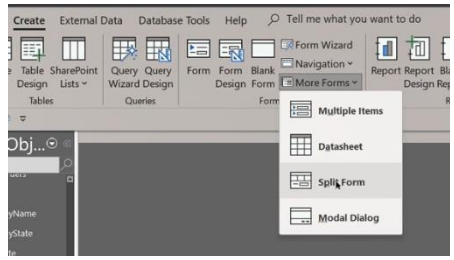
Split Forms

- Split form is a form that shows Form on the upper half and spreadsheet in the lower half.

Lab 10E: Creating Split Form

1. Continue using file **Lab10C_Start.accdd**
2. Just select **frmProducts** in Navigation Pane.
3. Go to Create➔ Forms➔ More Forms➔Split Form
4. It is open in layout view.
5. Notice that when you navigate to a record it is selected in the lower spreadsheet.





6. In layout view get rid of the icon and rename it Product Split form.
7. Notice it gave the form a name frmProduct1 by default.
8. Go to Form View.
9. Notice you can change record in top and it reflects that on sheet.
10. Reversely you can choose a record in datasheet, and it will show on the top form.
11. Save your form as **frmProductsSplit**.
12. Close your form.

Default Value

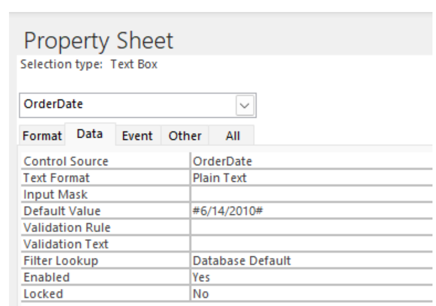
Default Value is a Value in a field, by default it is recorded whenever new record inserted if the user did not give it value.

Default value can be changed if the user wants to.

It helps to make date entry faster for repetitive value in the same field.

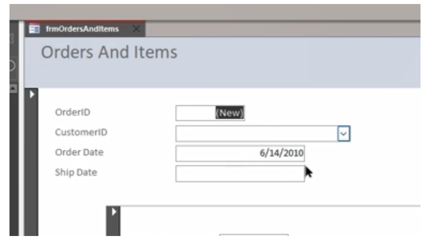
Example: Order date.

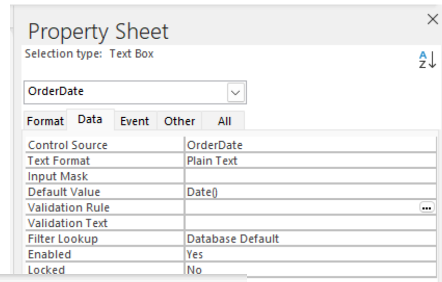
Lab 10F: Using Default Value in a Form



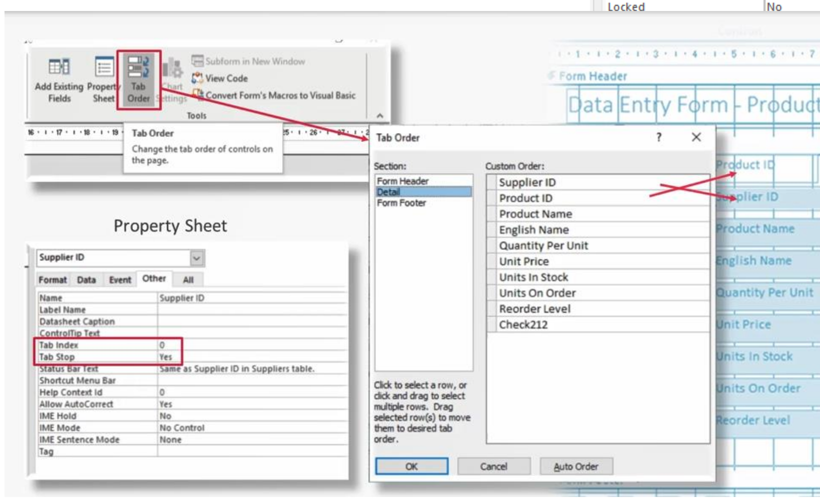
1. Continue using file **Lab10C_Start.accdd**
2. Open **frmOrdersAndItems** form in Design View.
3. Select OrderDate field in the form.
4. In the property sheet make sure OrderDate Field is selected.
5. If not go to the dropdown menu and select OrderDate Field.
6. In Data tab in Default value write 14/6/2010
7. Press tab key.

8. Notice that access ad # before and after.
9. Go to form view and try to a add new record.
10. Notice that the Order field has automatically populated with the default value.
11. Notice that you can overwrite it if you want to.
12. Click previous record and save your form.
13. So no new record is not saved.
14. Go Back to Design View
15. In default Value Change it to the Function **Date()**.
16. This will populate the field with today's Date.
17. Check the result in form view.
18. Go to previous so not to save the new record.
19. Save your form and close.



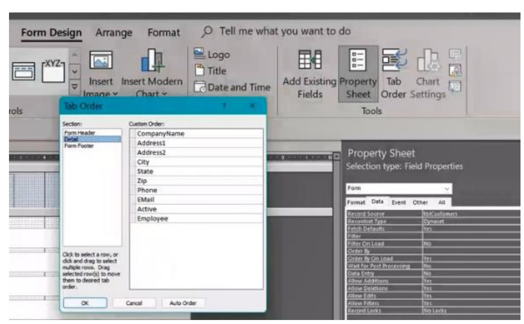


Form Tab order



Lab 10G: Arrange the Tab Order in a form

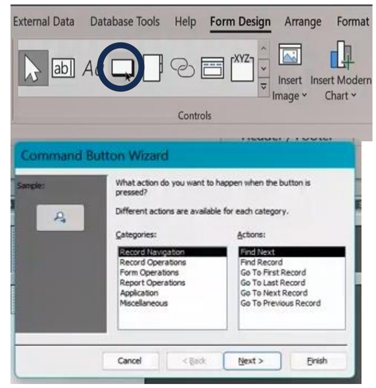
1. Continue using file **Lab10C_Start.accdd**
2. Open **frmCustomers** in Design View.
3. Go form Design ➔ Tools➔Tab Order
4. Drag State to be between CompanyName and Address1.
5. Click OK.
6. Go to Form View.
7. Create new record and notice when you press your tab key it goes to State after CompanyName.
8. When you design, most of the time your tab order is not right, and you want to adject again by the end of your design.
9. Access orders the fields as you entered in design one after another.
10. Access can do it for you if you want to.
11. Go back to design view.
12. Open Tab order.



13. Click **Auto Order** Button.
14. Click Ok.
15. Go and check in form view.
16. Close and save changes.

Lab 10H: Adding a Button Control to a Form

1. Continue using file **Lab10C_Start.accdd**
2. Open **frmCustomerInformation** in Design View.
3. Make sure that command Wizard is enabled and drag and drop a bouton control to your form.
4. The wizard appears.
5. Notice you have many actions you can do with your Command.
6. Action is categorized.
7. Go and explore each Category in the list.
8. Finally Go to **Form Operations**.
9. Under action Chose **Close Form**.
10. Click Next.
11. You can use Text or Picture for your Button.
12. Chose **Exit Doorway** and click Next.
13. Name your Button **cmdClose** and Click Finis.
14. Save your form.
15. Go to Form View and check the new Button.

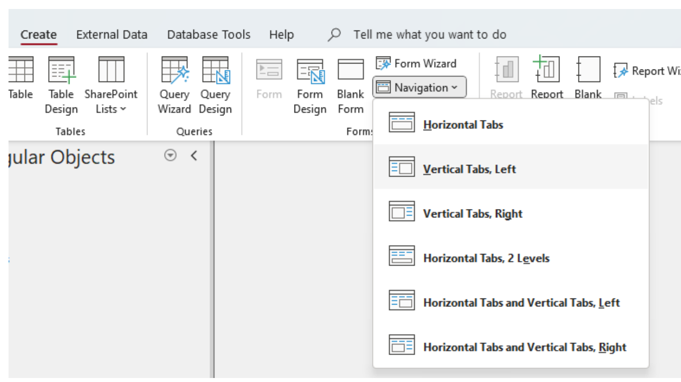


Chapter 11: Navigation and Switchboard Forms

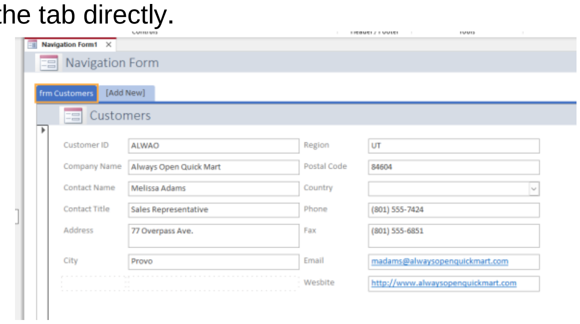
Navigation Form

- Is a form that provides user-navigation to other objects
- Can also be referred to as a switchboard form (which contains buttons)
- A navigation form contains embedded sub-objects (including reports)
- A navigation can actually be the only form required for all objects
- A navigation form is not bound to any table or query

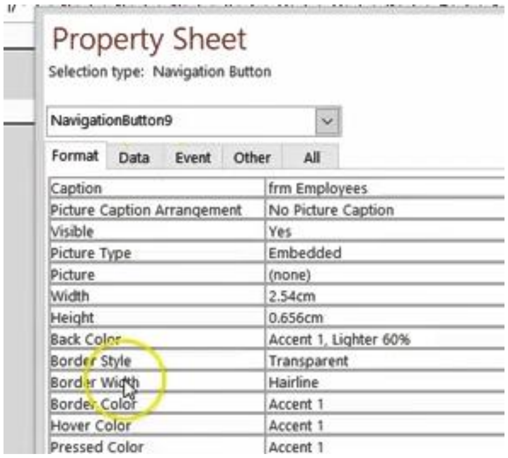
Lab 11A: Creating a Navigation Form

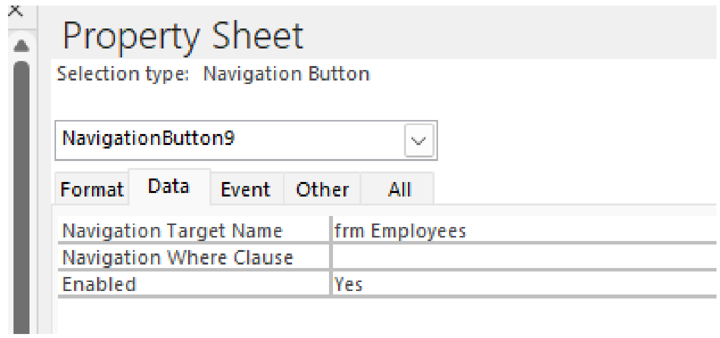


1. Use file **Lab11A_Start.accdb**.
2. Create➔Forms➔Navigation.
3. Explore the Templates that is available.
4. You have 6 Templates.
5. You have Horizontal, and Vertical.
6. You have Horizontal tab with 2 levels.
7. This is good to divide your design into two for example (Forms Group and Reports Group).
8. You have vertical left or right.
9. Choose a Horizontal tabs.
10. It will open the form in the layout view.
11. You have to add at least one form or one report.
12. You do that using drag and drop from the navigation pane.
13. Drage **frm Customers** to the first tab.
14. This will generate a tab with the name of the form.
15. Another way to add form is to type the name of form on the tab directly.
16. In the next tab double click and type: **frm Employees.**
17. Form employees now occupies the second tab.
18. You must type the exact name.
19. You can adjust the width of the tab.
20. You can also rename the tabs once the form has been assigned to tab.
21. Change names to **Customers, Employees**.
22. Go to form view and click the tabs to check your work.
23. Save your form as **frm Navigation Horizontal Tabs**.
24. Go to design view and explore more options.
25. Every Navigation tab has property and a name on the Property sheet winodow.

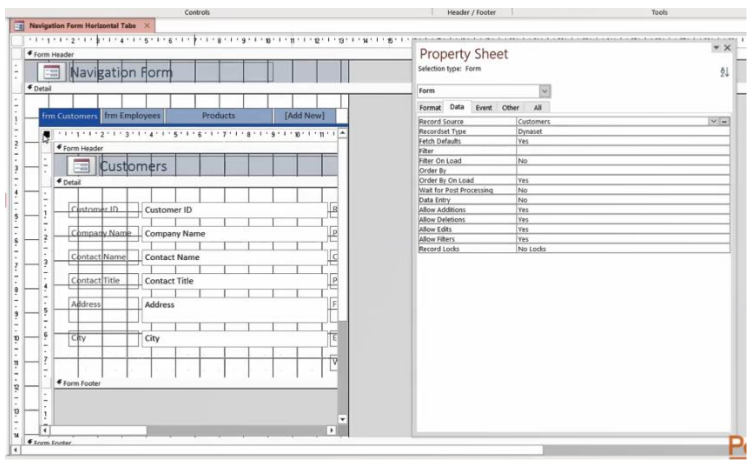


26. The most important is the one in Data tab ➔**Navigation Target Name**.

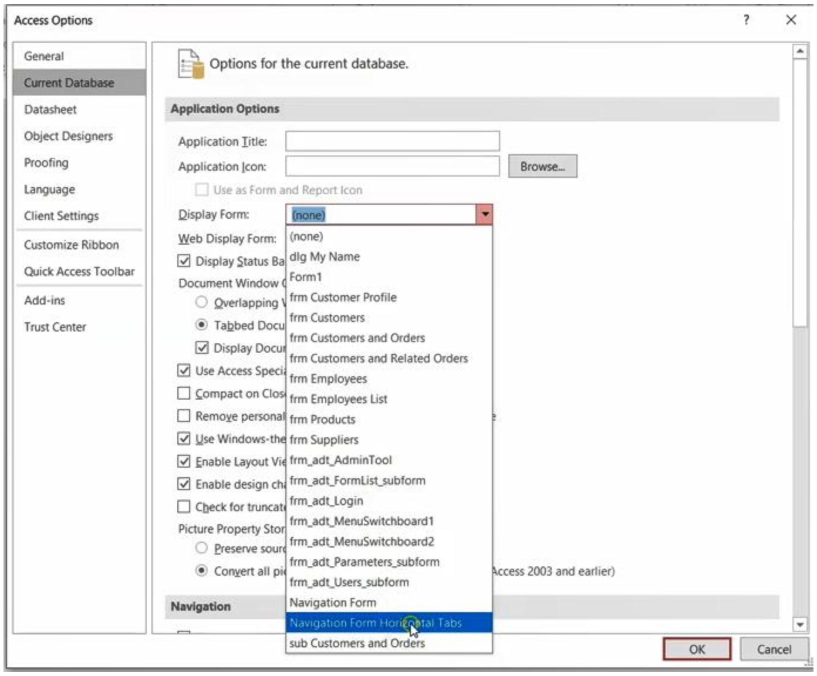




27. If you want to go the contained Form or report click the top left corner button of the sub form to get its property sheet.



28. Create a new Tab called **Products**.
29. Notice no form or report appears because there is no such name in database.
30. Now go and select the **frm Products** from Navigation Target Name.
31. Go to another tab and get back to see the result.
32. Add another tab for **rpt Suppliers**.
33. You can this Navigation form as the first Object appears on your application.
34. You can do that through a Macro or Change the setting of the database file.
35. Click File ➔Options➔Current Database
36. Chose your form to display first from the drop down list: **Display Form.**



37. You can also add title and icon to your database here.
38. Add a Title: My Company Database.
39. Browse to logo Company.ico file and make it your icon.
40. Close and reopen to see your result.

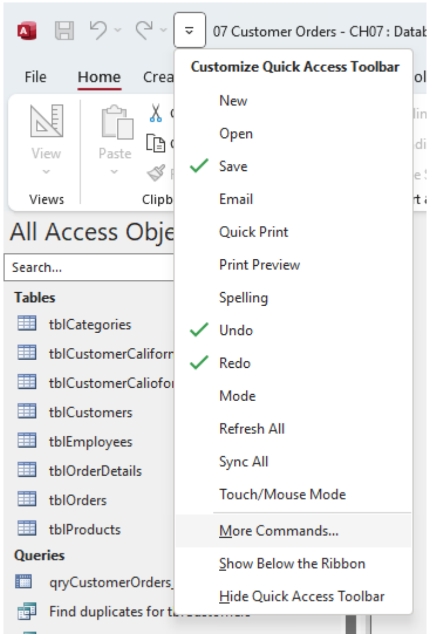
Switchboard

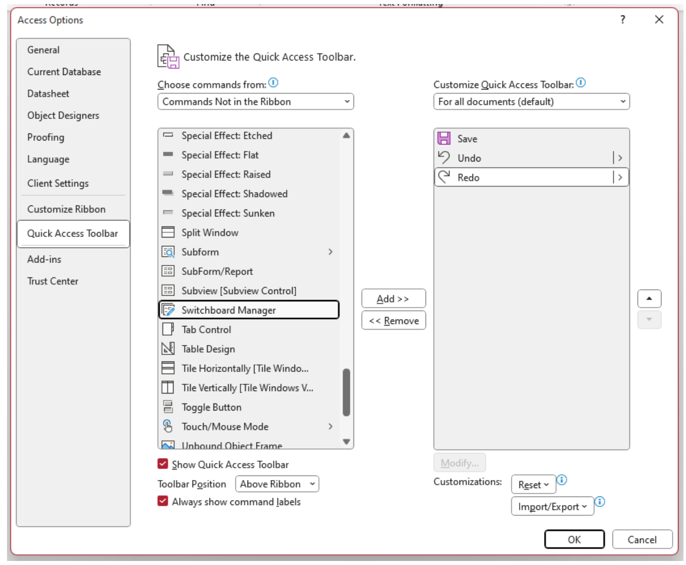
- Switchboards are used to navigate database Objects.
- To create a switchboard, you use switchboard Manager.
- Switchboard manager doesn’t show up in access by default.
- You have to add it to your Quick Access Toolbar

Lab 11B: Creating a Switchboard Form

Add Switchboard Manager to the Quick Access Toolbar

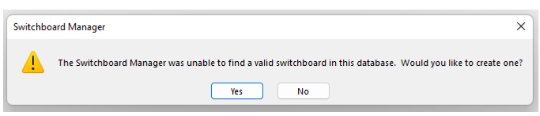
1. Use file **Lab11B_Start.accdb**.
2. In your Quick Access Toolbar click on the down arrow.
3. Select more commands.
4. **Customize quick access toolbar** Option Screen appears.
5. In chose commands from chose **Commands not in the ribbon.**
6. Notice in the right are the commands that already in your quick access toolbar.
7. In the left list press “S” so you go down to commands start with S.
8. Select Switchboard Manager
9. Click first on last command you have (redo for example.) and double click Switchboard manager.
10. Click OK.
11. So, switchboard manger in your quick access toolbar now.

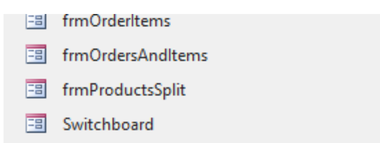


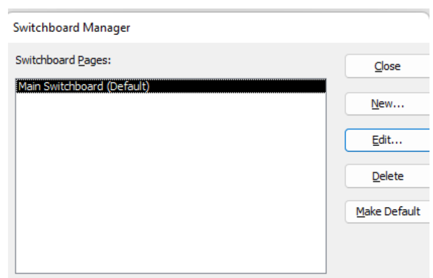


Create a Switchboard Form

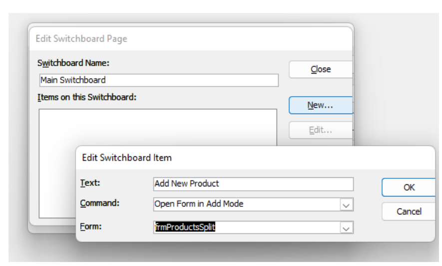
12. Click on switchboard manager on your quick access toolbar.
13. Click Yes on the warning message.







14. This will bring the switchboard manager for you.
15. Access gives you Main Switchboard as default.
16. Notice also you have now Switchboard appears in form Object in the navigation Pane.
17. You can create a new switchboard or edit an existing one.
18. We will Edit the Default one.
19. Click the Edit button.
20. There is no item in this switchboard till now.
21. Click New to add a new item.
22. In Text type : **Add New Product**
23. Chose **Open Form in Add Mode** in command.
24. In form select: **frmProductSplit** form.
25. Click OK to add the new Item to switchboard.
26. Add another new Item to switchboard.
    - Text: **Add New Customer.**
    - Command: **Open Form in Add Mode.**
    - Form: **frmCustomers**
27. Add Another Item to switchboard:
    - Text: **View Customer Information Report**
    - Command: **Open Report.**



- Report: **rptCustomerInformation**.

28. Click Close twice to close Switchboard manager.
29. Open form **Switchboard**.
30. Click Add new product.
31. It will open Product form and it is ready for new record.
32. Check the other two commands too.
33. Close all tabs.
34. Open switchboard again.
35. Go to Layout View.
36. Change the Title to **Customer Database**.
37. Close and Save switchboard.
38. Open switchboard manager.
39. Edit your main switchboard.
40. Add new Item:
    - Text: **Close Database**.
    - Command: **Exit Application**.
41. Click close twice.
42. Open switchboard
43. Check the new command and close your database.

Chapter 12: Build an Appealing User Interface

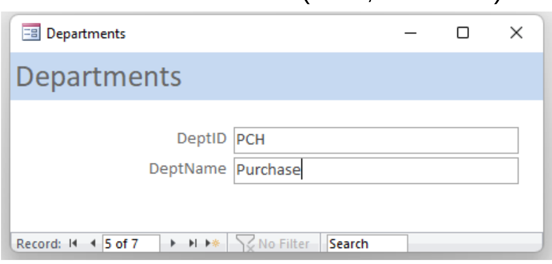
In this chapter we will go through creating a good-looking form and make it easier for user to interact with, enter data and navigate.

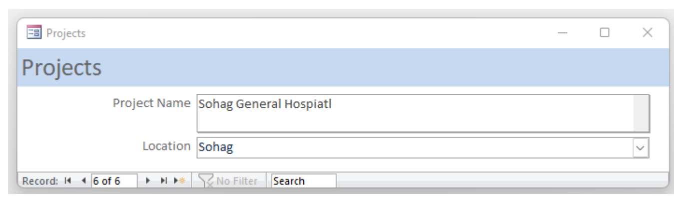
Build Your Project Part 3

- In this step we will create forms of our project

Department Form

1. Use Form Wizard to create Department form **frmDepartments**.
2. Use **tblDepartments**
3. Add all fields.
4. Open in design view and change Form Properties:
    a. Format➔Caption=Departments.
    b. Format➔Record Selectors=No
    c. Other➔Pop Up: Yes.
5. Add New Record (PCH, Purchase) Like the Figure



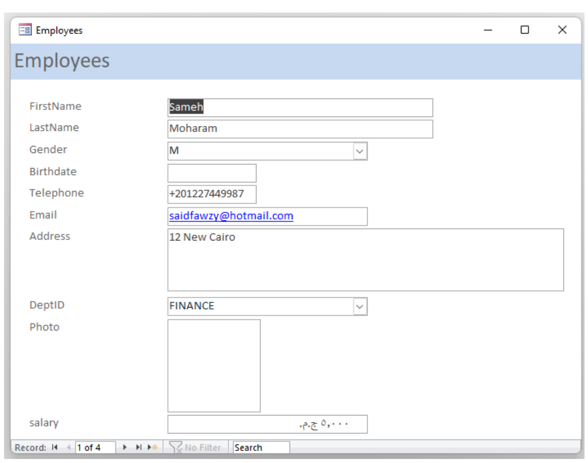


Projects Form

6. The same way Create the Projects Form **frmProjects** and add new project.
7. Use table **tblProjects**.

Employees Form

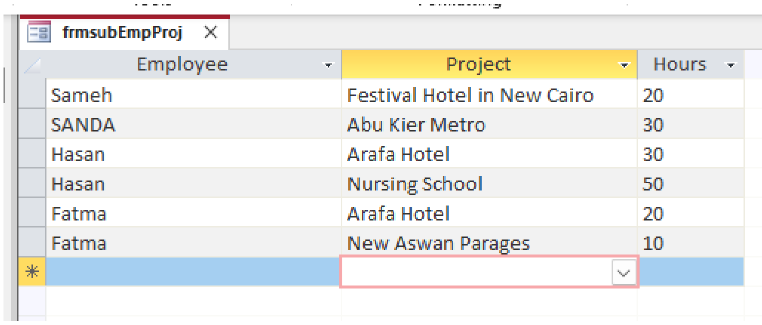
8. Create the Employees from **frmEmployees** to be as follow using wizard.
9. Use table **tblEmployees**.



Projects Employees

<u>Create Sub form</u>:

10. Create **<u>SUB FORM</u>** form **subfrmProjEmp** as follow
11. Use table **tblEmp_Projects**.
12. Delete the title label and close the Header section.
13. Change Format➔Default View=Datasheet.
14. Your form should be like this.
15. Set Navigation Buttons and Record selector to No.
16. view your sub form it should look like this one



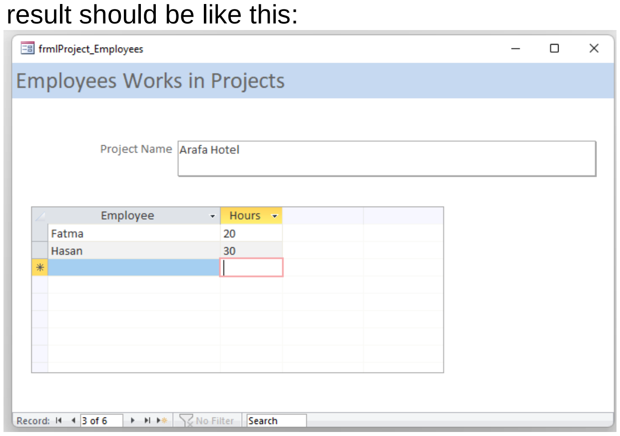
frmsubEmpProj

Employee	Project	Hours
Sameh	Festival Hotel in New Cairo	20
SANDA	Abu Kier Metro	30
Hasan	Arafa Hotel	30
Hasan	Nursing School	50
Fatma	Arafa Hotel	20
Fatma	New Aswan Parages	10

17. Save and close your sub form.

<u>Create Main Form</u>

18. Now Go and Create **frmProject_Employees** form AS **<u>MAIN FORM</u>**.
19. Use table **tblProjects** as data source.
20. Only Chose ProjectID ,ProjectName in the form.
21. Go to Design View.
22. Set record selector to No and Pop Up to Yes.
23. Add the sub form **subfrmProjEmp** as a sub form to your main form.
24. Change Caption of form to **Project Employees**.
25. Change the title to: **Employees Work in Projects**.
26. Expand detail section and add the sub form **subfrmProjEmp**.
27. Hide **ProjID** from the main form and **ProjID** from the sub form
28. Set Visible property to no for the main form.
29. In sub form just right click the field and choose hide fields.
30. Delete the label of the sub form.
31. Your result should be like this:



Main Navigation Form

32. Create **frmMain** from Blank Form.
33. Add Two tabs to the form : **Forms** and **Reports**.
34. Set Navigation Buttons and Record selectors to NO.
35. Set Form Caption to **Employee Database**.
36. Show Header of the form and add label **Employees Database**.
37. Insert Photo and the Logo of the Company.
38. In the Page Forms add buttons to open the forms name the buttons as follow:
    a. frmEmployees. (cmdOpenEmployees).
    b. frmProjects.(cmdOpenProjects).
    c. frmProject_Employees.(cmdOpenProjEmp).
    d. frmDepartments.(cmdOpenDept)
39. Add a Button to close the application.
40. In Database setting set **frmMain** as a Starting Form.
41. Set Company Logo.
42. You can Add Close Button to each form you have created.

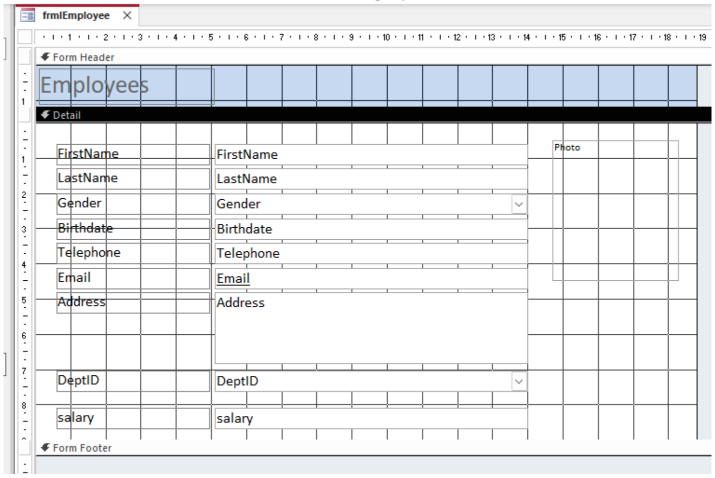
Design Employee Form in Details

1. Let us Design Employees form in Detail.
2. Go Back to your **frmEmployees** Form in Design View.

Arrange Controls

3. Select All in the Details and make font =**12** and color = **Black**.
4. Select all text box only (unselect the Photo) and make width = **widest**.
5. Adjust the width to a proper width and put the Photo on the right.

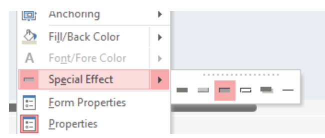
6. Delete the label of the Photo.

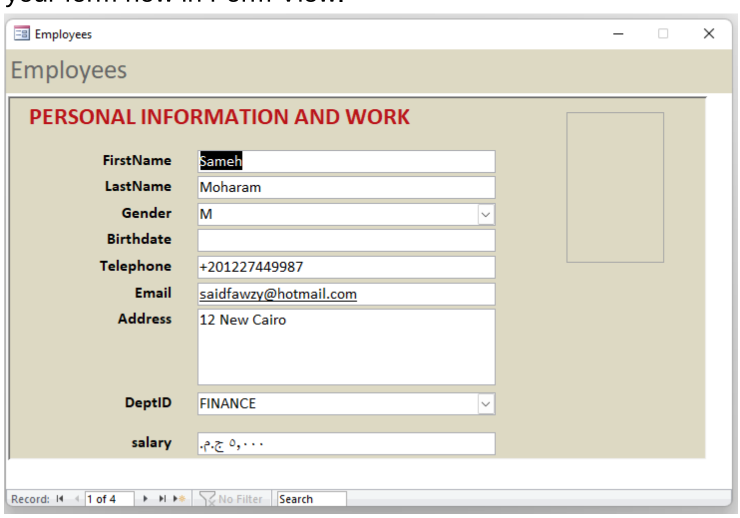


7. Make text in labels align to right and for text box align to left.
8. Make labels Bold.
9. Select Text Boxes and make shape outline all Black.
10. Select all and get all down and insert a label on the top of details.
11. Write on the label: Personal Information and Work.
12. Make font 18 and color = #BA1419.
13. Click on Header Section and change the color to = #DDD9C3.

Add Rectangle as Background

14. Insert a Rectangle Shape from the Toolbox to cover all controls.
15. Fill the rectangle with the same color of the Header section = #DDD9C3.
16. Right click Rectangle and Position➔send it back.
17. Right click the rectangle and add special effect.
18. Change Form➔Format➔Minimum and Maximum Buttons =Minimum enabled.
19. Form➔Format➔Border Style = Thin.
20. Look to your form now in Form View.

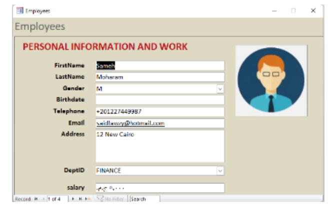




21. Go to design view again.
22. Close all gaps in the form outside the rectangle.
23. Select the rectangle and change Format➔Horizontal Anchor=Both.
24. Check in the Form view, you have no spaces left.

Adjust the Photo Control

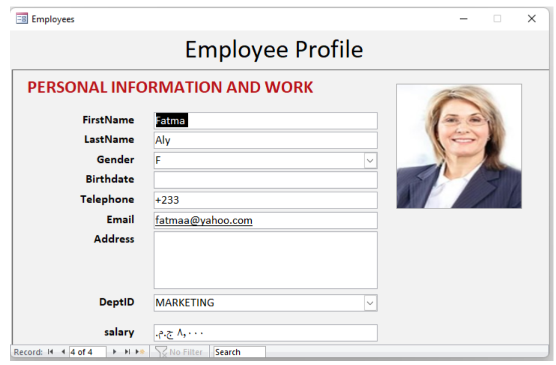
25. Go to the design view and let us adjust the Photo.
26. Let us add a default Photo so user know he should click to add photo here.
27. Select the Photo frame and click the insert image button on the Form Design ribbon.
28. Brows to the photo **EmpDefaultPhoto.PNG** file in Photo Folder.
29. Notice you will have its name in the property sheet for the Photo in Format➔Default Picture.



30. Change Size mode property for the photo to = **Stretch**.
31. Go now and see the form view.
32. The color is not suitable with the form.
33. Change color background for Detail Section and header = #F2F2F2.
34. Check in the form view.
35. Now let us add Photos for employees.
36. Go to each employee and click the photo and choose the photo for him/her.

Form Title

37. Go back to design view
38. Change the label in the Header Section
39. Write Employee Profiles
40. Make font 26 color=black and make it Center.
41. Your form now should look like this.

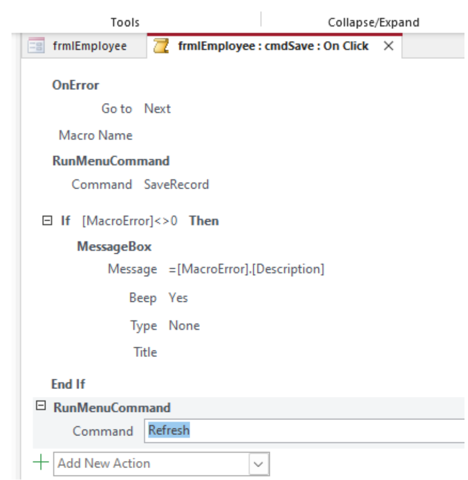


Adding Buttons

42. Expand the detail Section under the rectangle.
43. Add a button to save the record.

Save Button

44. Records Operations ➔ Save record.
45. Button Caption= Save and Name=cmdSave.
46. Right click the button and choose **Build events** and add **Refresh** action at the end of the Macro.
47. Save and get back to form.



Button New Worker

48. Add Another button.
49. Record Operation➔Add New
50. Button Text = New Worker, Name=cmdAddNew.

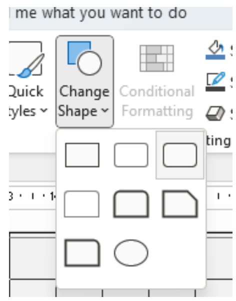
Button Delete

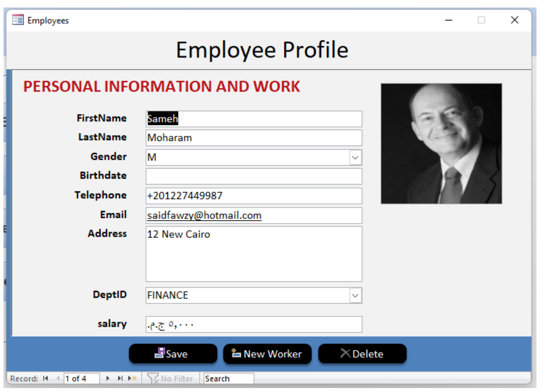
51. Add Another button.
52. Record Operation➔Delete Record
53. Button Text = Delete, Name=cmdDelete.

Arrange and format Buttons

54. Select all buttons.
55. Make font = 12

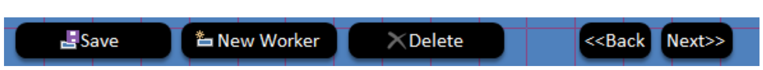
56. Select **Save** Button
57. Format ➔Picture ..select Save picture from the list Save Record Picture.
58. Change **Picture Caption Arrangement** =Right.
59. So, picture and caption appear together.
60. Go to **New Worker** Button.
61. The same way add photo (select **Go To New**) and make the caption right too.
62. Go to **Delete** Button.
63. The same way add photo (select **Delete**) and make the caption right too.
64. You have part of detail section appears, so you have to give it a color.
65. Click and make the color to Blue = #4F81BD.
66. Select the 3 buttons and change shape to rectangle rounded corner.
67. Choose quick style too.
68. Arrange them to be:
    a. align Top.
    b. Size to widest.
    c. Spacing equal horizontal.
69. See your form view now.
70. You should have something like this.





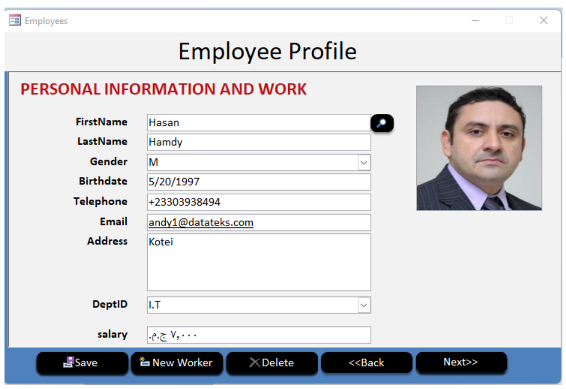
Create your navigation buttons.

71. You can use your own buttons for navigation.
72. Go to Design view.
73. Select the Form
74. Go to Format➔Navigation Buttons = No.
75. Format➔Scroll Bars = Neither.
76. Now Create the Buttons at bottom right of the form.
77. **Back Button**:
    a. Record Navigation ➔Go To Previous Record.
    b. Text = <<Back.
    c. Name = cmdBack.
78. **Next Button**:
    a. Record Navigation ➔Go to Next Record.
    b. Text = Next>>.
    c. Name = cmdNext.
79. Use the copy format button to format new buttons as others.
80. Arrange your buttons again.



Add Search Bar

81. We want the user be able to search by Name.
82. In Design view draw a small button beside the Field Name.
83. Select Record Operation ➔Find Record
84. Use the Icon that Access Give to you (Magnifier).
85. Give button name **cmdFindEmployee**.
86. Format the button the same shape and style like other buttons you have created.
87. Change property Other➔ Tool tip text = **Search Employee by Name**.
88. Go to Form view and hover over the search button to see the tool tip.
89. Try your form:
    a. search,
    b. Navigation,
    c. Open table tblEmployees in back ground
    d. add new worker then click save.
    e. See it is reflected in table directly if you are modify data (use refresh table for new record).
    f. Delete your new worker.
90. Your form should look like this:



Chapter 13: Report Basics

What is Report

- Reports are very similar to forms but:
  - Data cannot be edited, they are locked
  - There are potentially more sections available for a report
  - There's an additional view mode – the print preview
  - A dedicated Groups and Sorting tool
  - A richer (Report) Wizard tool
  - Quick easy to use functions

Lab 13A: Create a Simple Report

Create Report from a query

1. Use file: **Lab13A_Start.accdb**.
2. Open **qryProducts** in **Datasheet view**.
3. Go to File ➔ Save As ➔ Save Object As
4. Save it as **Report** and name it **rptProducts**.
5. The report opens in **Layout View**.
6. Get red of the report icon.
7. Rename the report title: Product Information report.
8. Expand and adjust the total box.
9. Look at the report in the **Report View**.
10. Look at the report in the **Print View**.
11. Close the report.

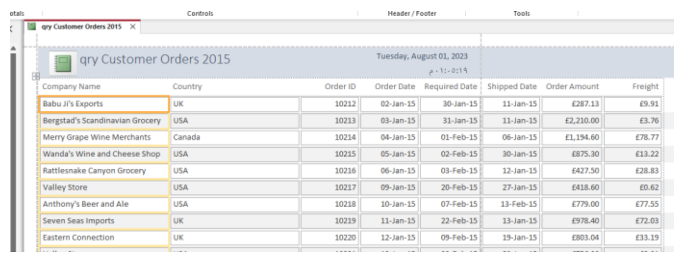
Creating Report in Design View

12. Go to Create➔Reports Group➔ Reports Design
13. It is like the form design view.
14. It contains Heard, details and footer section.
15. From ribbon design ➔tools➔Add existing fields.
16. Field list pane appears.
17. From **tblCustomers** table add all fields except CustomerId and Address2.
18. Right click Page Header and click Page Header footer to make it disappear.
19. That is because they appear in each page.
20. Right click details and select Report header and footer.
21. They appear in the start and end of the report.
22. Go to Print Preview.
23. Go to Layout View
24. Make ComanyName Field wider.
25. Scroll down to make sure it is wide enough for all company names.
26. Go to Design View.
27. In Report Header add label and add text : Customer Information.
28. Go to the Format tab on the ribbon.
29. Increase text to 16.
30. Go to Report Design tab in the ribbon.
31. In Group: Header/Footer ➔ Logo.
32. Select the logo file.

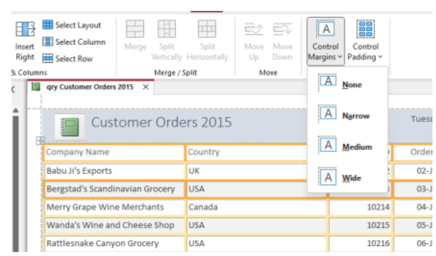
33. Drag it to the right adjust.
34. Check your report in print preview.
35. Go back to design view.
36. Save the report as: **rptCustomerInformation**.
37. Close report.

Lab 13B: Exploring Report Design View

1. Use file: **Lab13B_Start.accdb**.
2. You must decide what you will be based your report on (table or query)?
3. Most of the time you based your report on query not a table.
4. Open report **qry Customer Orders 2015**.
5. There are 328 records.
6. Those are all customers orders in 2015.
7. Go to query design view.
8. Remember query has a sorting option and can have calculated field.
9. In report you have also those too options as we will see.
10. Close your query but keep selecting it.
11. Create➔Reports➔Report.
12. A report appears in layout view.
13. Change Title to **Customers Orders 2015.**

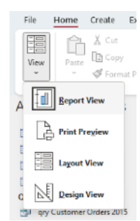


14. Select the group of controls showing orders and try to adjust the padding and margin.
15. Use Arrange ➔ (Control margin) and (Control Padding).
16. Save your report as **rpt Customer Orders 2015.**

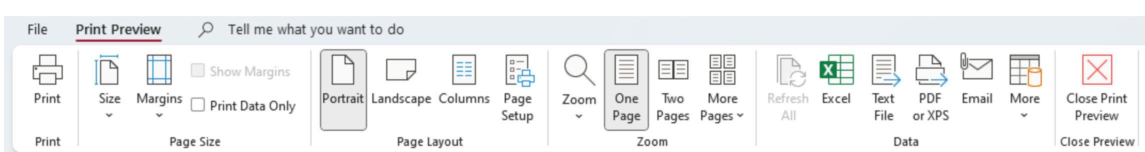


Report Views

17. Explore the 4 Report Views:
    a. Report View.
    b. Print Preview.
    c. Layout View.
    d. Design View.



18. Go to Print Preview.
19. You can here:
    a. Print
    b. Change: Page Size, margin, print data only
    c. Change: Orientation, Column, Page Setup.
    d. Zoom.
    e. Export Data to other programs.

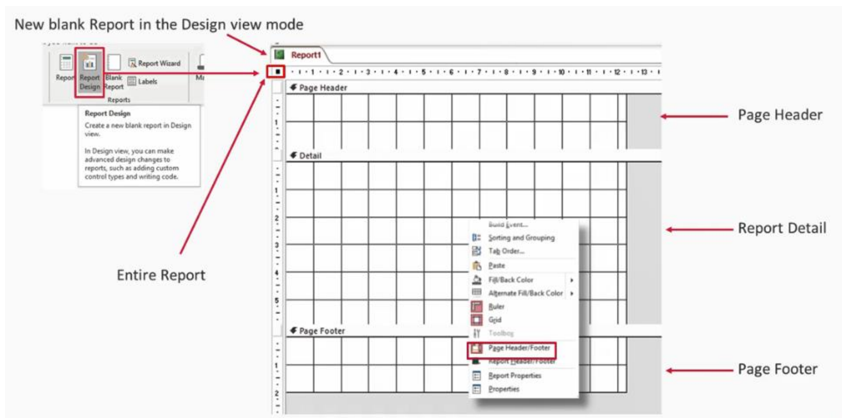


20. Close the Print preview from the **X** button to go to other views.
21. Repost Design View is like form design view.
22. Drag your report edge to the last control.
23. Go to Print Preview to see the result.
24. Change the Report to be Landscape.
25. Explore the Icons on the ribbon that help you in printing the report.

Chapter 14: Advanced Report Design Techniques

Report Design Canvas

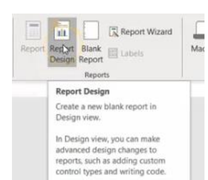
- When you click on Report Design tab on the ribbon you got an empty report.
- It is divided into 3 sections (Header, Detail, Footer).
- To select the entire report, click the top left corner of the report.
- You can switch Header and footer if you right click the report and toggle.



Report Sections

- o The main detail for records in either a column or tabular view
- o A page header/footer for the top and bottom of each report page
- o A report header/footer for the very top and bottom of a report
- o A group section for as many fields required in the report

Lab 14A: Creating a Report from Scratch



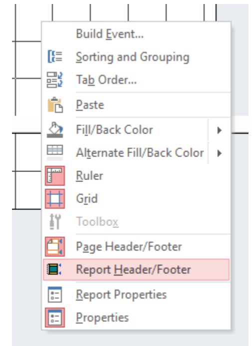
1. Use file: **Lab14A_Strat.accdb**.
2. Create➔Reports➔Report Design.
3. Decrease the height of detail section to see all sections.
4. I want to create a report based on query: **qry Orders and Products.**
5. Open the query first to know fields and data.
6. You have 2796 records.
7. It shows each order and details of each item.
8. The query is nor Filtered of Sorted.
9. We will make that in our report.
10. Close the query.

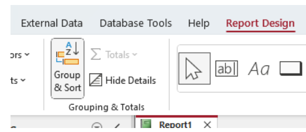
Assign the record Source

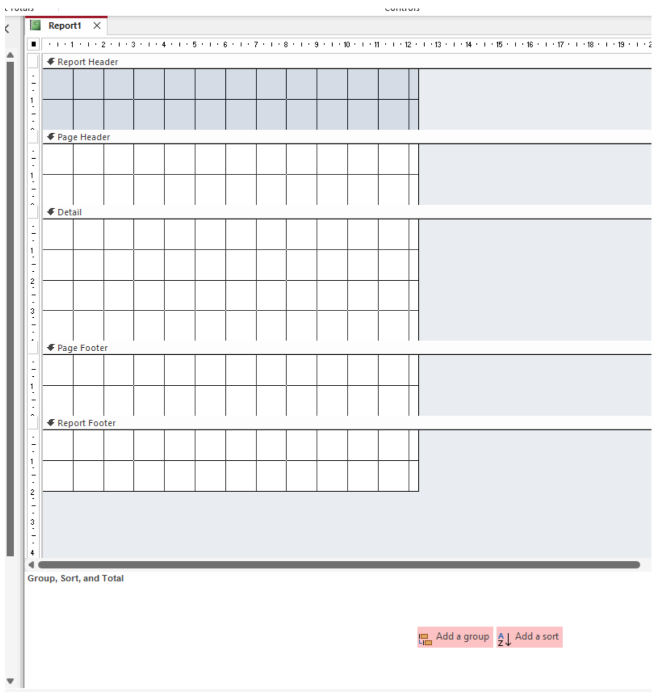
11. This is our first task.
12. Open the property sheet.
13. Make sure the Report is the active component.
14. Data ➔Record Source = **qry Orders and Products.**

View and Hide Report Sections

15. Right click on the report and select **Report Header/Footer**.
16. If we want to group or sort or have totals , you click:
17. Report Design ➔Group & Sort.
18. Click to show.
19. Click again to hide.



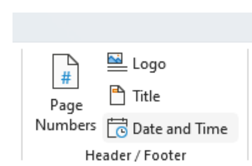


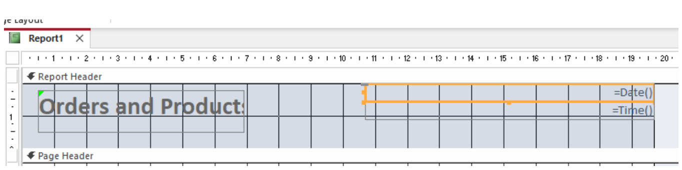


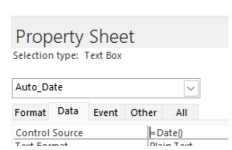
20. You can change the height of any section by dragging.
21. Or select the section Format➔Height.
22. You can only assign Width to the whole report.
23. You can Change for report Format➔Caption.
24. For each section you can change Format➔Visible.
25. Notice you have 4 tabs on the ribbon for design view.
26. Go and see the options in each.

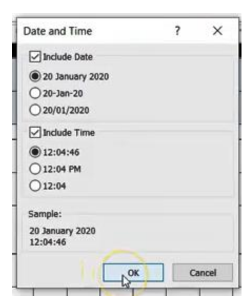
Adding Title, Date and Time to the Report Header

27. Add label to the header and format with title: **Orders and Products**.
28. Insert Date and time:
    a. Report Design➔Header/Footer➔Date and Time.
    b. Choose how you would like to show date and time.
    c. You got two textboxes with expressions to show date and time.
    d. Go and see the expressions on the Data Tab for each control.







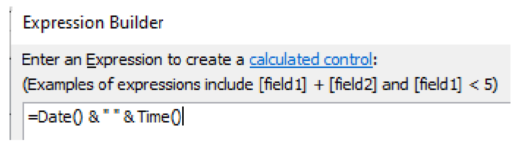


29. Save your report as **rpt Orders and Products**.

Property Sheet

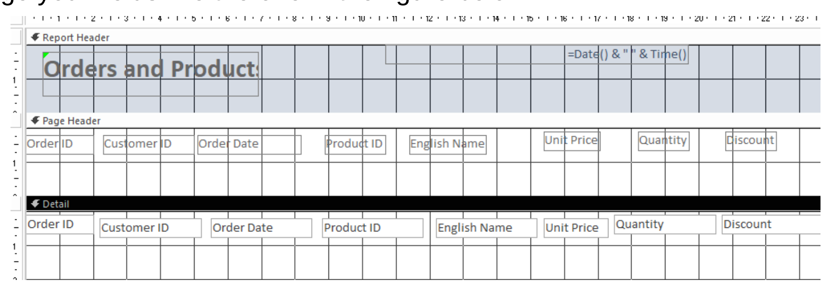
30. Property sheet reflect the control you select.

31. Select the Title label.
32. Notice there is no property available in Data tab.
33. Click on the Date text box.
34. There is Data tab and expression used.
35. The expression starts with "**=**" sign.
36. You can write expressions directly or click ellipsis to show the **Expression Builder**.
37. Or you can right click and use Zoom Window.
38. Open expression Builder and Change the expression to show both Date and Time.
39. **=Date() & " " & Time().**
40. Delete the Time text box and go show the result in report view.



Create Table list of Products in Detail Section

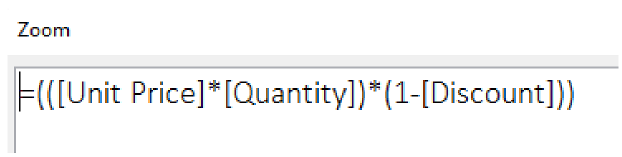
41. Open the **Field List** by clicking the **Add Existing Fields** button.
42. Select all Fields.
43. Drag and drop the fields on the detail section.
44. Run your report to see the effect.
45. Go back to the design view.
46. Try to move any text box, also its label moves with.
47. I want to put move the labels on the Page Header and keep text boxes on detail section.
48. There is no way to do that but cut label and paste in the header section.
49. Arrange your fields like the one in the figure below.



50. Go and show the result in Report Preview.
51. You will have a wide space between rows.
52. Go to design view and narrow the detail section.
53. You have to go and back many times to adjust your report.

Adding a Calculated Field in Detail section

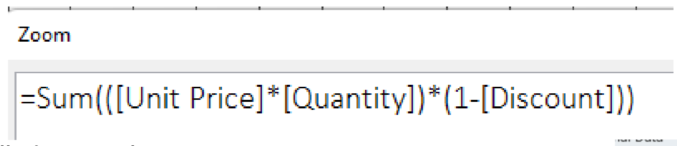
54. We want to add calculation field for each row to calculate the Total line in the detail section.
55. Add unbound text box from the Toolbox to detail section.
56. Cut the label and paste in header section.
57. Change label caption in property sheet to: **Line Total** (or you can write directly).
58. For text box in (Data➔Control Source) go to Expression Builder and write the expression.
59. Or Use Zoom Window.
60. Click outside the property to let Access Validate your expression.
61. If it is ok go and preview the result.
62. Notice that Access added the " **=** " Sign for you.
63. Go back to design view and change the style of the calculated field.
    a. Format ➔ Format = Currency (or Standard).



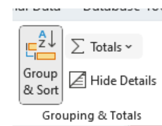
b. Other→Name= Line Total.

Adding Totals to Footer.

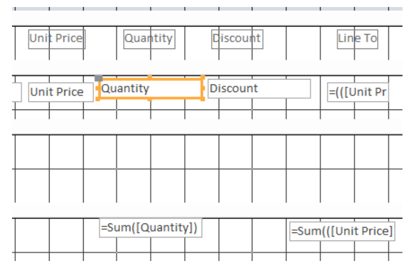
64. When you add calculation fields on other sections it is different.
65. If you add to Page Header or Report Header, it gives you an error.
66. In Report Footer or Page footer it gives you Totals.
67. Add a text box control to report footer.



68. Use this expression to sum all Line Total
69. Delete text box label.
70. Go and check the result.
71. Another way to add total to your footer, is using the **Totals** Icon on the Ribbon.

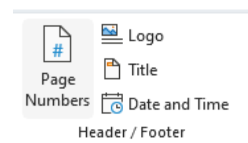


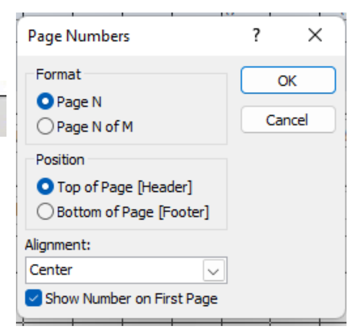
72. You have to select a field in detail field that can be totaled first.
73. Select **Quantity** field.
74. Select Sum function to add sum to its footer.
75. Go and preview the result.



Adding Page Number

76. Go to Report Design → Page Number.
77. In the Dialogue box select:
    a. Format= Page N of M
    b. Position = Bottom of Page [Footer].
    c. Alignment =Right.
78. If you have the first page as a cover page uncheck option: **Show Number on First Page**.
79. Click OK and see the expression.
80. Go to Print Preview to see the result.
81. Close the Preview and get back to Design View.





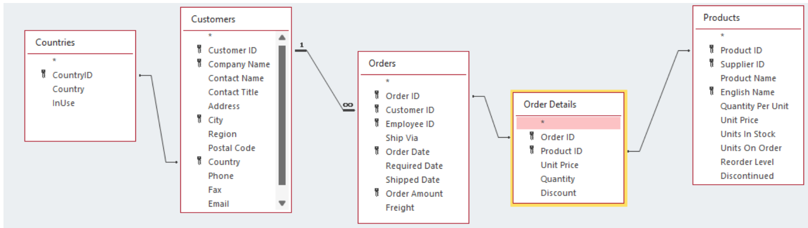
Adding Logo

82. Make space on the top left corner of the report.
83. Go to Report Design → Logo.
84. Browse to select the logo photo.
85. Resize and move your logo.
86. Change logo height and width = 2cm.
87. Go and see your report.

A Report Based on Parameter

88. We do not need to print all the records.
89. This report is based on a query.
90. You can find the query name in **Record Source**.
91. Go to Navigation pane and copy and paste the query and rename it.
92. To keep my query for other objects based on it.
93. Name it: **qry Orders and Products Parameter**.
94. Open new query in design view.
95. I want users be able to choose Country by name.

96. Notice the country text is not in the tables in this query.
97. It is stored in the **Countries** table.
98. Countries table is linked to **Customers** table.
99. Neither of the tables are included in the query.
1. Add the two tables and adjust the joins.



2. Run your query to make sure it returns 3796 records as before.
3. Go back to Design View and Add **Country** field from **countries** table.
4. Add a parameter to the query in Country Criteria **[Enter the Country:].**
5. Run your query, add **UK** for the parameter.
6. This time you get 806 records for UK.
7. Save and close your query.
8. Go back to your report.
9. Change the report record source to: **qry Orders and Products Parameter.**
10. Rund and check your report.
11. Notice the total Number of your reports has been reduced too.
12. Go back to design view.
13. Add the field Country to your Page Header and delete its label.
14. Go to test your report, enter USA as country parameter and see the result.
15. Save and close your report.

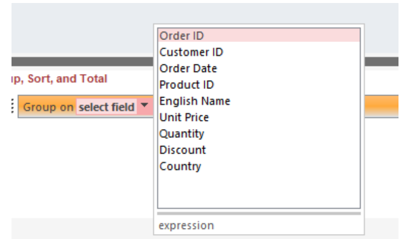
Report Groups, Sorting and Totals

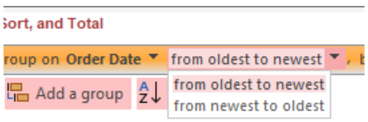
- It is easier to view smaller chunks of data in a report
- Can have multiple groups as each group is based on a field
- Groups can have page breaks inserted
- Groups are sorted by priority over detailed records
- Groups are data type sensitive for the ease of use
- Groups can extract and further group partial values of a data value
- Summary calculation and functions can be easily added for a group
- Groups have their own optional headers and footers too

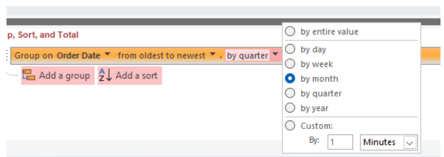
Lab 14B: Report Grouping, Sorting and Totals

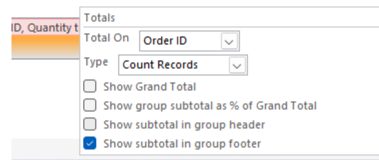
1. Use the same file **Lab14A_Start.accdb**.
2. Copy and paste your previous report **rpt Orders and Products**.
3. Rename it to: **rpt Orders and Products By Country Group**.
4. Open in design view.
5. Click Report Design➔Grouping & Totals ➔ Group & Total.

6. It starts with 2 buttons (Add a Group and Add a sort).
7. Click add a group.
8. A pop up window prompt you for the field (or expression) to Group by.
9. Chose **Order Date** Field.
10. According to your choice, different options are added to your Group section:
    a. Choose from older to newer date.
    b. Choose to sort by Month.
    c. Chose to show subtotal for the group by counting Order ID

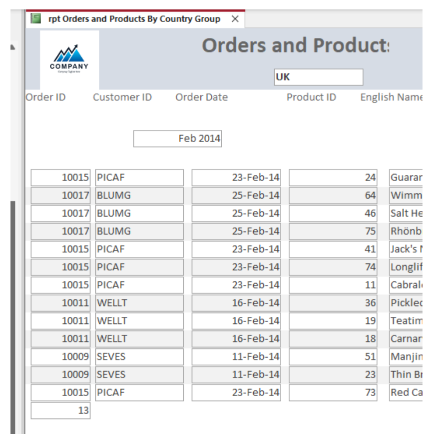








11. Run your report, Header and footer for the group Appear.
12. Go Back to Design view.
13. To make it Clear add the field you grouped by to Group header.
14. Add Order Date to group header.
15. Go and watch your report.
16. Notice it is not correct as it shows the 1st date in the month, but we grouped by month.
17. Go back to design view.
18. Delete the order date label.
19. Format the Order Date to show only month and year.
20. Format➔Format = **mmm yyyy.**
21. Run your report and see the result.



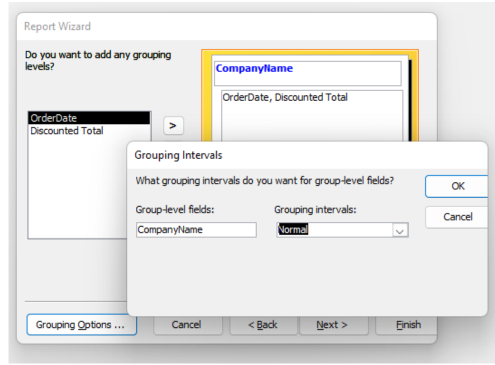
New Page for Each Group

22. We want to print each group in one page
23. Go back to design view.
24. Show property sheet.
25. Select the header of Order Date Group.
26. Change: Format➔Force New Page = **Before Section**.
27. Run Report to check.
28. Close and save your report.

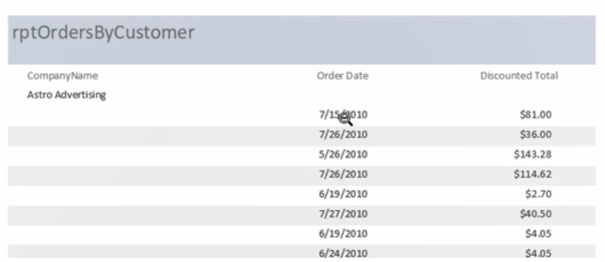
Lab 14C: Grouping Report Data Using Wizard

1. Use File Lab14C_Start.accdb.
2. Go to Create ➔ Reports ➔ Report Wizard
3. Use **qryCustomerOrders** Query.
4. Chose fields: CompanyName, OrderDate, DiscountedTotal ➔ Next.
5. We want to Group by "CompanyName".
6. Double click CompanyName.
7. It will be shown on the View.

8. Notice that you have Grouping Options Button.
9. This options you to choose how to order company name.



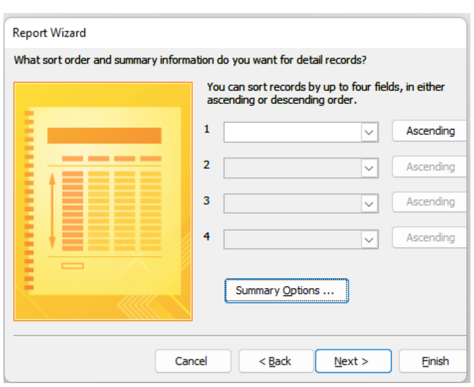
10. Leave it as normal.
11. Click Next.
12. We do not want to sort so ➔ Next.
13. In the layout click every option and see how it looks like (stepped, Block, Outline).
14. Also you can chose the Orientation (Portrait or Landscape).
15. Chose **Steeped** and **Portrait.**
16. Name your report **rptOrdersByCustomer**.
17. Click Finish.
18. You get a report for each company and the date of each order and the total after discount of each order.

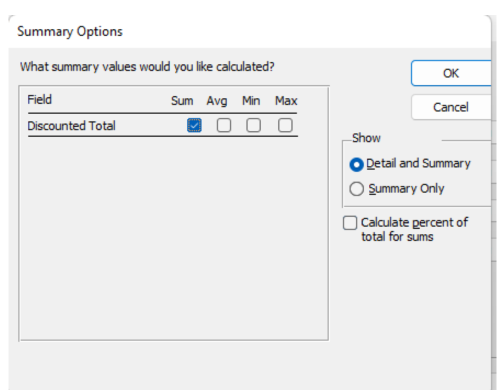


19. Notice in the footer you have the Numbering of pages.
20. You can navigate to other pages using navigation buttons.
21. Go to layout View.
22. Change title to: Orders By Customer.
23. Look at Report View.
24. Close Report and save Changes.

Summarizing Report Data

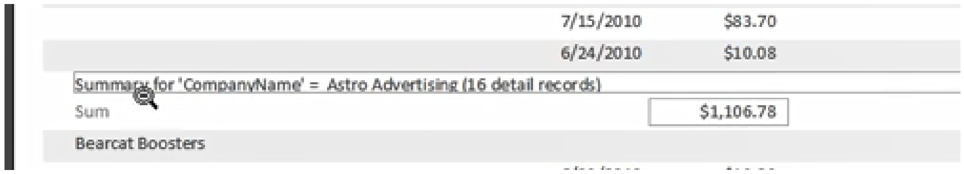
26. Go to Create ➔ Reports➔Report Wizard.
27. Select **qryCustomerOrders**.
28. Chose fields **CompanyName**, **OrderDate**, **Dicounted Total**.
29. Click Next.
30. Group By **CompanyName**.
31. Click Next.
32. In the sort screen click Summary Options.
33. Notice only Calculated fields are only appear.
34. Discounted total is only appears here.
35. Select **Sum**.
36. Select **Show details and summary**.
37. Click Ok



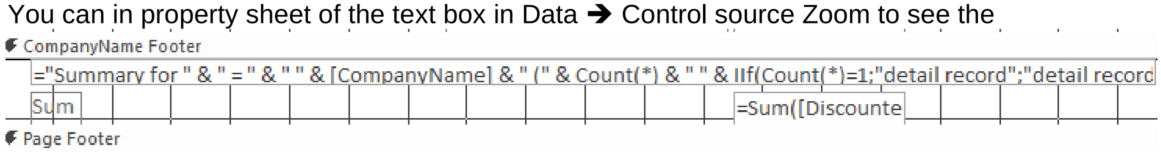


38. Click Next

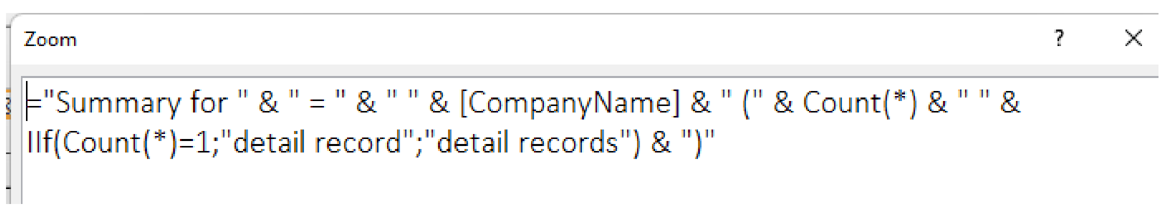
39. Click Next
40. Name your report **rptOrdersSummary**.
41. Notice the new summary after each Customer orders



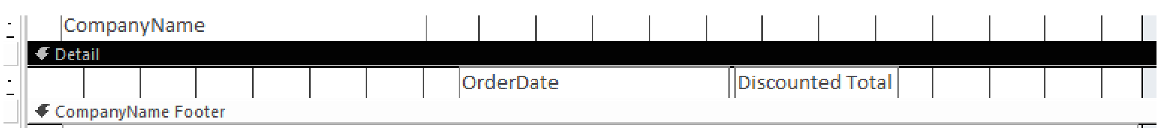
42. Go to Layout View and fix the report Title to **Orders Summary**
43. Go to Design View
44. Notice the we have:
    - **Report Header**: shows in the 1st page of the report.
    - **Page Header**: Shows in every Page of the report. (notice it has the label for Company Name , OrderDate , and Discounted Total).
    - **CompanyName Header**: That is because we grouped in CompanyName
    - **Detail Section**: shows the data for each company .
    - **CompanyName Footer**: It shows at the bottom of each company.
    - **Page Footer**: Shows in each Page.
    - **Report Footer**: shows in the last page of the report.
45. Go to fix CompanyName Footer.
46. Delete 'CompanyName' (start at single quote and end at single quote)
47. Your textbox should be like this one:
48. You can in property sheet of the text box in Data ➔ Control source Zoom to see the



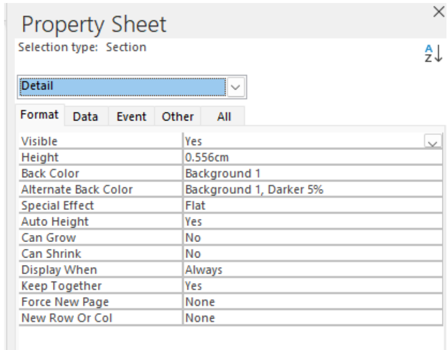
Code.
49. Go back to Design View.

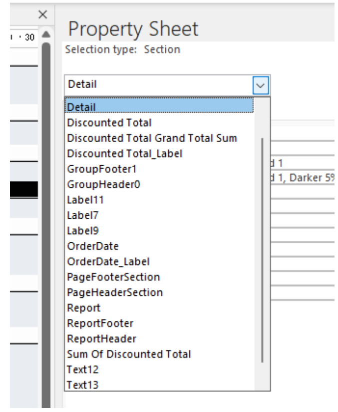


50. In Report Design Tab in Ribbon.
51. In Tools Group Click Property Sheet.
52. Click in Detail Rebar.

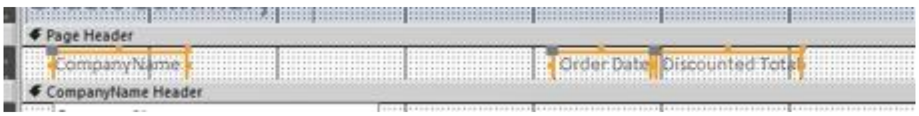


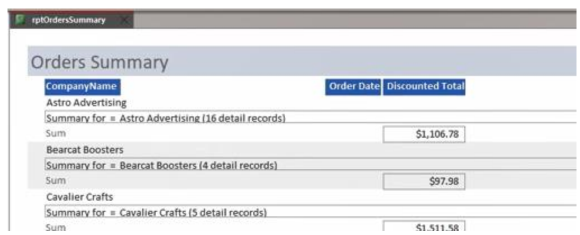
53. The Property sheet will reflect the property of the Detail Section
54. also, you can select the object from the list to see its properties.



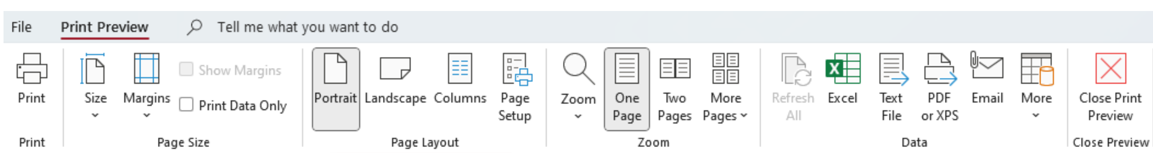


55. Close Property sheet.
56. In Page Header select **all labels (use shift key)** label

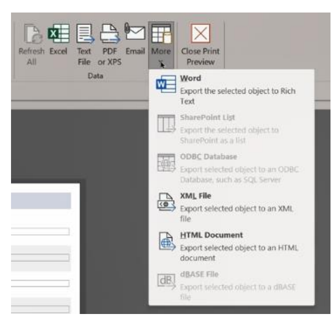




57. Go to the Format tab in the ribbon.
58. Change font Color to white and Back color to blue.
59. Review in report view.
60. That is the way you format your report elements as you want.
61. Go to Print preview.
62. This is how it would look like if you printed this report.
63. In Print Preview tab you can change the paper size , Margin ,Page Layout .
64. You can also export your report to word, excel, pdf , etc.



65. Close your report and save.



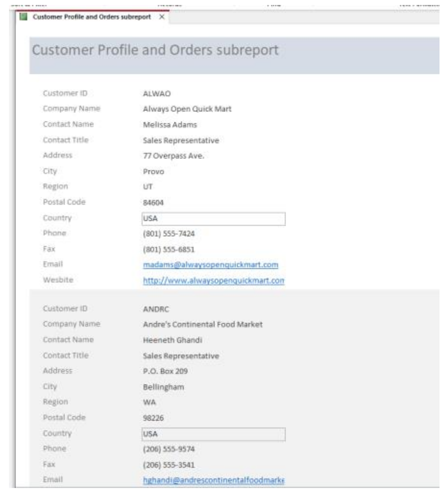
Sub Reports

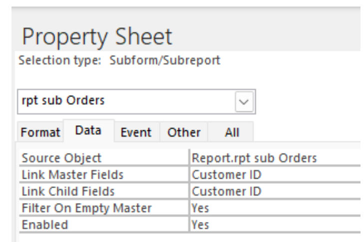
- Sub report (Child) is a report that is embedded in another report (Parent).
- Most of the time there is linked field between the two reports.
- The field link is used to filter records between two reports.

Lab 14D: Sub Reports

1. Using file: **Lab14D_Start.accd**.
2. We want to list Customers (Main Report) and for each customers we want to show his orders (Child Report).
3. Open report: **Customer Profile and Orders subreport**.

4. I want to add sub report on the right to show each customer's orders.
5. We will use the field **Customer ID** field as the link between the two reports.
6. Open the report: **rpt sub Orders**.
7. This is the sub report we will embed.
8. Notice the field Customer ID field, it shows up here but it might be invisible too.
9. Close the **rpt sub Orders**.
10. Open **Customer Profile and Orders subreport** in design view.
11. Make the report width wider to get the sub report.
12. From navigation pane drag report **rpt sub Orders** and drop it in the detail section to the right.
13. Resize and reposition it and delete its label.
14. Notice in property sheet there is a link established between the two reports (Link Master Fields, Link Child Field)
15. You can change manually if they were not the fields you want.
16. Notice that if you did not include link, the report will show all records for each record in Master Report.
17. Run Your report.
18. Save and close.





Using Report Wizard

- Access has a rich report wizard that makes it easier to have a quick report.
- You can use it to create reports and then customize the result.

The advantages of Report Wizard

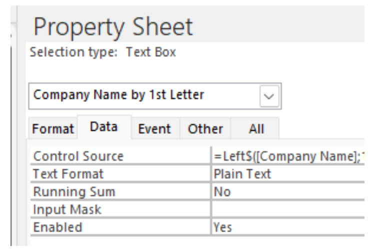
- Easy to use
- Builds the components very quickly
- Establishes the joins (relationships) along the way
- Add multiple sorting options along the way
- Add group sections along the way
- Add summary calculations along the way
- Determine page orientation and basic layouts
- Add a title and name for the report

Lab 14E: Building Reports Using Wizard

Creating Simple Report based on one table

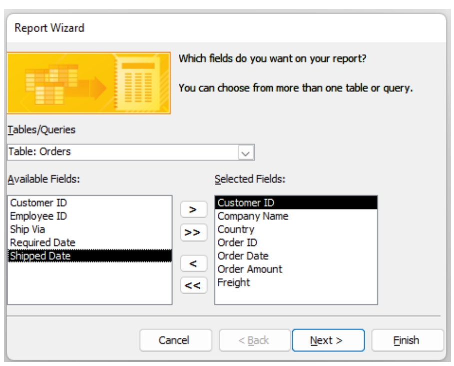
1. Use file: **Lab14E_Start.accdb**.
2. Create➔Reports➔Report Wizard.
3. Table: Customers.

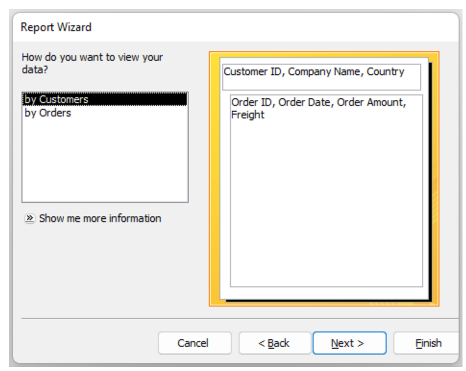
4. Fields: Customer Id, Company Name, Contact Name, Contact Title, Postal Code, Country, Phone, Email.
5. Group By: Company Name.
6. Click Grouping Options Button.
7. Grouping Intervals = 1st Letter.
8. Sort By Customer ID.
9. Layout= Block   - Orientation= Landscape.
10. Save your report as: **rpt Customer Contact List By Alphabet**.
11. Preview your report.
12. Close to Go to Design view.
13. Notice the field that shows the 1st letter of the Company name.
14. It uses Left$ Function.
15. Notice:
    a. Data➔ Control Source.
    b. Format➔Hide Duplicate= Yes.
16. Try to show duplicate, then preview.
17. Go Design View.
18. Hide Duplicate.
19. Close and save your report.



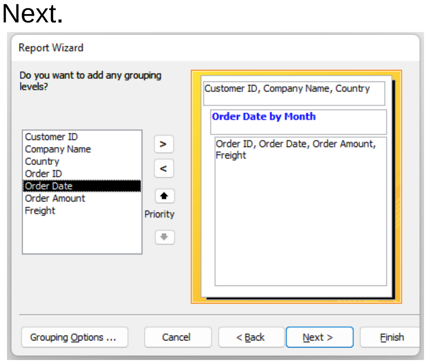
Using Wizard with two tables

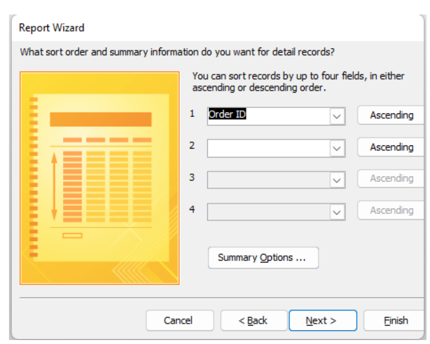
20. We will use **Customers** and **Orders** Table and a **Calculated field** too.
21. Create➔Reports➔Report Wizard.
22. Start with Table: Customers.
23. Fields: Customer Id, Company Name, Country.
24. Then Chose table: Orders.
25. Fields: Order ID, Order Date, Order Amount, Freight.



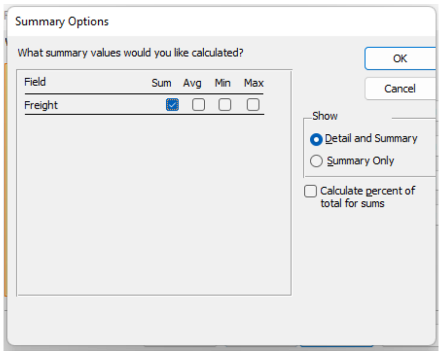


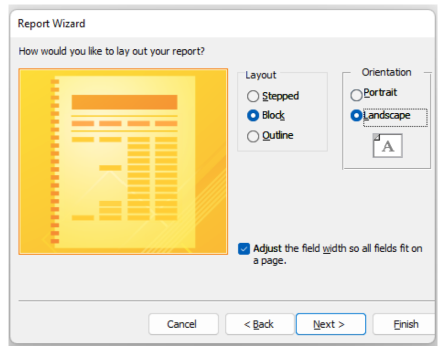
26. Click Next
27. Notice that It assume you want make customers table the parent.
28. You can change if you want to, but we will leave it this way.
29. Click Next.



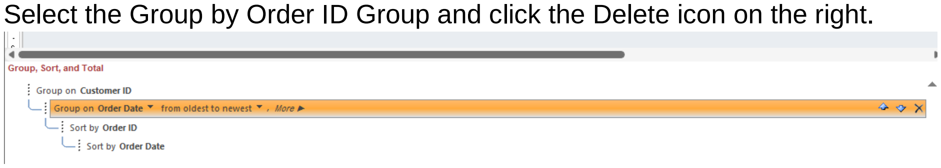


30. Chose to have Group by Order Date and use grouping options to group by month.
31. Click Next.
32. Sort by Order ID.
33. Click Summary Options
34. Select Sum Freight.
35. Click OK
36. Click Next





37. Select Layout = Block   Orientation= Landscape.
38. Click Next.
39. Name your report: **rpt Customers and Orders by Month**.
40. Click Finish.
41. As you can see there is only one order for each month
42. It would be better to remove Group by month and only show orders for each company.
43. Go to Design View.
44. Click **Group & Sort** Button.
45. Select the Group by Order ID Group and click the Delete icon on the right.



46. Confirm deletion.
47. Now Run your report in Print Preview.
48. It looks better now.
49. Close and save your report.

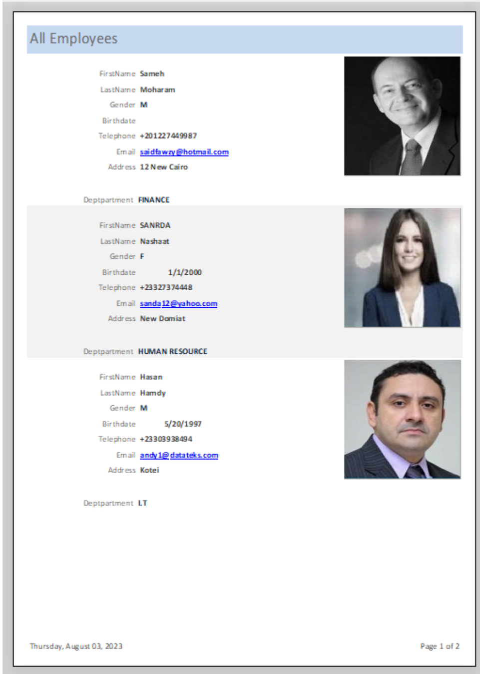
Build Your Project Part IV

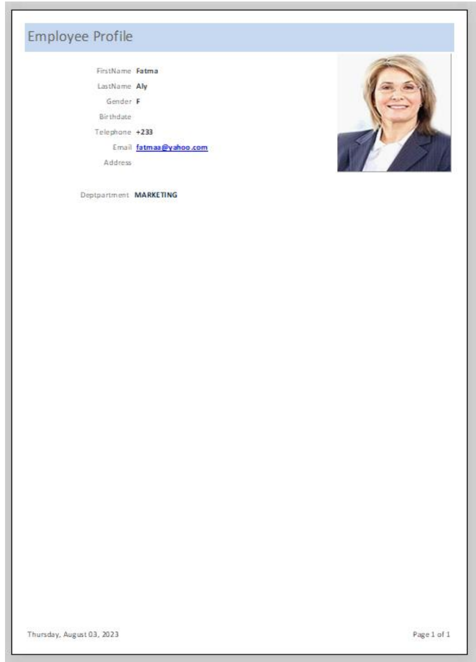
Create All Employees Report

1. Create the report **rptAllEmployees.**
2. Use Report Wizard and then adjust it.
3. Make it based on table **tblEmployees.**
4. It should look like this one on figure.
5. Check in Preview.

Create An Employee Profile

6. Create Report **rptEmployeeProfile**.
7. Duplicate the previous report and rename it.
8. Make it based on query: **qryEmployeeByFirstName**.
9. Check in Preview.



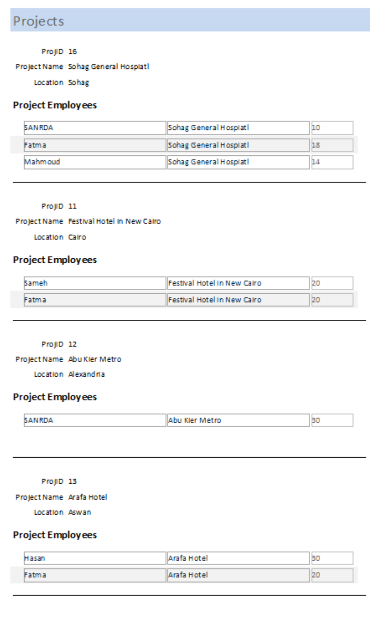


Create Project Employees Report

10. Create the Sub Report: **rptsubProjectEmployees.**
11. Make it based on table: **tblEmp_Projects.**
12. Check in Preview it should be something like the one in Figure.
13. Close and save.
14. Create the Main Report: **rptProjects**.
15. Make it Based on **tblProjects**.
16. After you finish your main report design Drag and drop the sub report at the end of Detail section.
17. Your final report should look like the one in Figure.

Project Employees

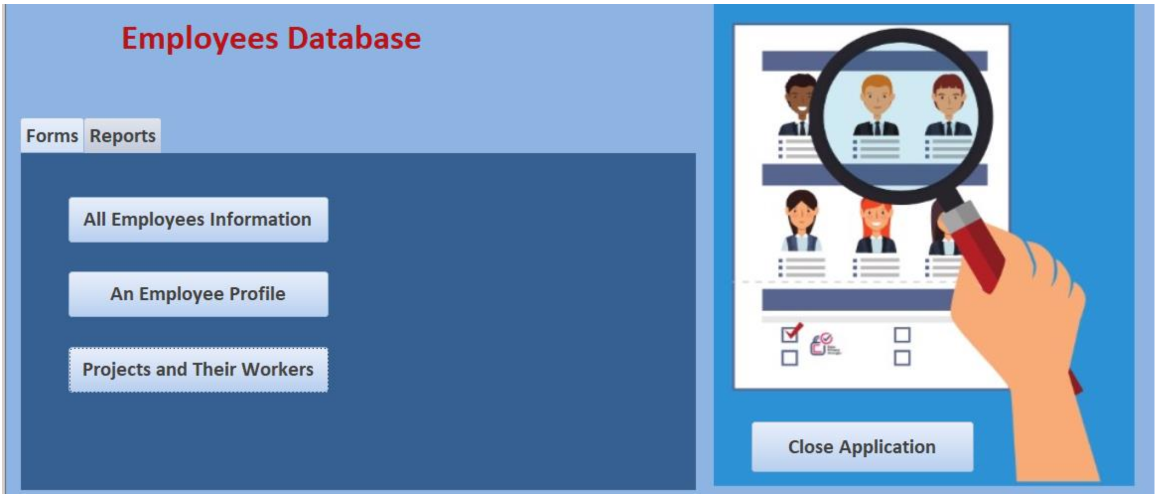
Employee	Project	Hours
Sameh	New Aswan Parages	18
Sameh	Festival Hotel in New Cairo	20
SANRDA	Sohag General Hospiatl	10
SANRDA	New Aswan Parages	24
SANRDA	Abu Kier Metro	30
Hasan	New Aswan Parages	30
Hasan	Arafa Hotel	30
Hasan	Nursing School	50
Fatma	Sohag General Hospiatl	18
Fatma	Festival Hotel in New Cairo	20
Fatma	Arafa Hotel	20
Fatma	New Aswan Parages	10
Mahmoud	Sohag General Hospiatl	14
Mahmoud	New Aswan Parages	15



18. Close your report and save.

Create Report Buttons in Main Form

19. Open form **frmMain** in design view.
20. On the Report tab add 3 buttons to open the 3 reports you have created.
21. Your Main form should be like this one.



Chapter 15: Introduction to Macros

What is Macro

- Macro is a tool to write code and automate your database actions.
- It saves you action that use should do manually, like opening a form or report from navigation pane.
- You can create a macro that opens a form or report and assign it to a button so user only click the button to open.

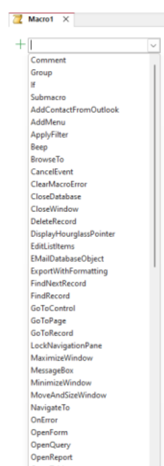
Why Using Macros?

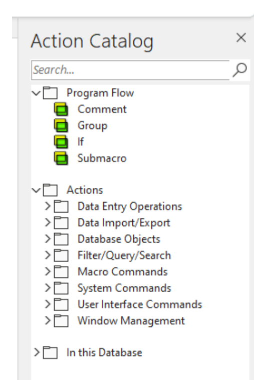
- Add Automation – making it user-friendly
- Remove repetitive manual tasks
- Control workflows and increase database security
- Combine multiple user actions into one routine
- Interact and engage with users
- Handle incorrect data input and output processes
- Can check background processes for you

Types of Macros and Their Scopes

- Embedded Macros – stored with the Access object (forms and reports):
  - Scope: LOCAL – to the object only
- Macro Objects – stored independently in the Navigation Pane
  - Scope: GLOBAL – can be used across objects
- Data Macros – stored internally to an Access table
  - Scope: LOCAL – to the object only

Lab 15A Creating a Simple Macro Hello World

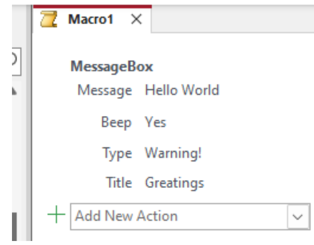




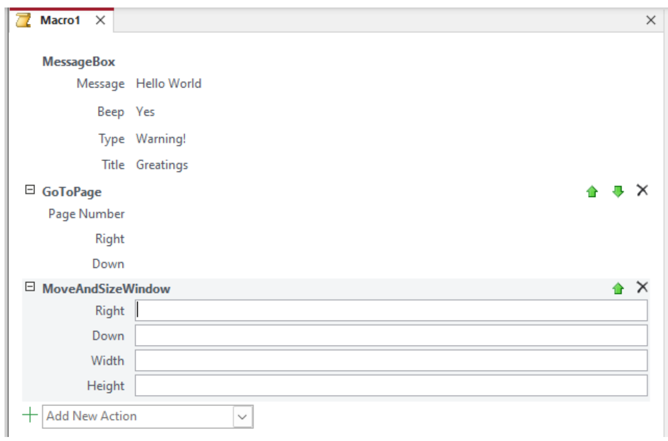
Create Stand Alone Macro

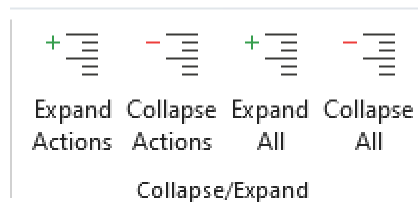
1. Use file **Lab15A_Strat.accdb**.
2. Create ➔ Macros & Code ➔ Macro.
3. Macro Builder is opened.
4. The macro has a default name macro1.
5. If you want to add an action to your macro, you either select the action from:
   a. The Action Catalogue window or
   b. Action Drop down List.
6. In **Action Catalogue** You have Categories to group actions.
7. On the top you will find the Program flow group.
8. For example, you can add **Comments** or **IF** statement to make your macro actions go in a conditional basis.
9. In Action categories you can find subcategories like Data Entry Operations where you can expand to select operations like Delete Record or Save.

10. Let us start our Hello world Macro.
11. Search for **MessageBox** and add as your first action.
12. Arguments are displayed to complete your action.
13. Complete your arguments as in the figure.
14. You can add actions after this one or before.
15. You can select from the list or drag and drop from the Action Catalogue and you can rearrange the order using the green arrows and delete any action with the delete icon on the right of any action.



16. You can also collapse or expand your actions through the buttons on the ribbon.
17. Add any other two actions, manipulate with them up and down then delete them and leave only your message box.





18. Click Run to run your macro.
19. Access prompts you to give it a name.
20. Save your macro as **mrcWelcome**.
21. You get the message you have created in the Macro.
22. Notice you have your macro now on the navigation pane.
23. Try to run your macro again, you get the same result.
24. Close your macro.

Edit your macro

25. Right Click your macro, Open in Design view.
26. Change in message and type.
27. Add A comment in the start: "**Another Message to display to User**".
28. Notice it appears in green color.
29. Add another message box:
    a. Massage: We hope you are doing fine.
    b. Type: Information.
    c. Title: Have a nice Day.
30. Run your macro and save then close.

Events

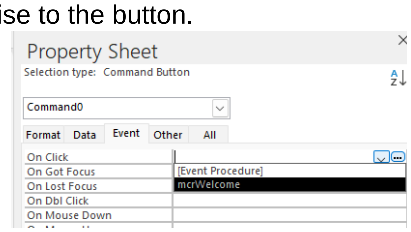
- An event is the result of initiating an action on an object.
- The action could be as simple as positioning the mouse on an object even without clicking (Hovering).
- The action could consist of (left) clicking, right-clicking, dragging (with the mouse, or dragging with the mouse while holding a key on the keyboard), double-clicking, rolling the

wheel (of a mouse), typing (with the keyboard), pressing a key, scrolling (a scroll bar), etc.

- When an action is performed on an object, the object must send a message to the operating system (OS), letting the OS know that something (or what) happened.
- The OS must then decide what to do, whether to respond to the message or send the message to another object.
- The names of most events start with **On**, which means, "at the time this is done". Because most, if not all, events have to do with time, an event is said to be fired.
- That is, the object **fires** an event at the time something happens.
- When an event is fired, Microsoft Access (or rather the database engine) gathers the necessary information and composes the message to be transmitted where appropriate.
- Again, remember that most events have to do with time (they are referred to as occurrences).
- In some cases, something must be done before the actual action is applied. For this reason, the names of some events start with **Before**. When something must be taken care of after the action has applied, the event that must be used to implement the desired behavior starts with **After**.

Lab 15B: Assign A Macro to an Event

1. Continue using file: **Lab16A_Start.accdb**.
2. Create an Empty Form **Form1**.
3. Add A button to the Center of the form With Caption “**Welcome Me**”.
4. Go To Form view
5. Click the button, no action happened.
6. Go back to Design View.
7. In Assign the macro you created in the previous exercise to the button.
8. Events➔On Click = **mcrWelcome**.
9. Go to Form view.
10. Click your button, the macro works.
11. Go to design view.
12. Delete actinon in **On Click** Event of the button and assign the macro to **on Mouse Move**.



13. Go to form view and hover over the button and see the action.
14. Clear the event from the **on Mouse Move** event.
15. In On Click event click the ellipsis and create a macro embedded only for your button.
16. Make it send a message Greetings from MS Access.
17. Test your form action in Form View.
18. Close and save your form as **frmWelcomeMe**.

Popular Command Actions

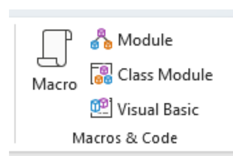
- OpenForm – also for OpenTable, OpenQuery, and OpenReport
- Printing – can be actioned using the RunMenuCommand
- GoToRecord – useful for navigating between records
- DeleteRecord/SaveRecord – also actioned using the RunMenuCommand
- Requery – useful for updating a control's property list
- ImportExportData – handle data from other applications
- RunSQL – can actually execute special queries too
- SetWarnings – switch on and off Access warnings
- QuitAccess – quick and useful to exit the application

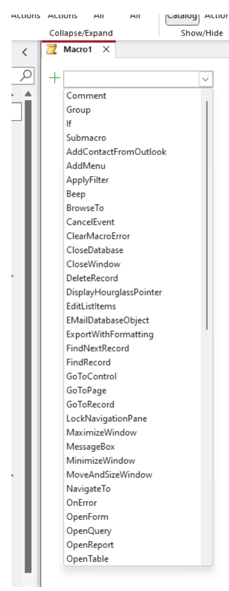
AutoExec Macro

- AutoExec Macro is a special Macro.
- AutoExec Stands for Automatically Execute.
- It is a Macro that executes automatically when your database open.
- You can have only **ONE** AutoExec Macro in each database.
- And it must be named AutoExec.

Lab 15C: Create AutoExxec Macro

1. Continue using file: **Lab16A_Start.accdb**.
2. We want to create AutoExec Macro so when the database opens the switchboard open.
3. Create ➔Macros &Code➔Macro.
4. You will get a Combo Box if you click its arrow, you will see a list of ACTIONS.
5. Select Action: **Open Form**.
6. When you choose that it gives you more fields to fill.
7. Fill the fields:





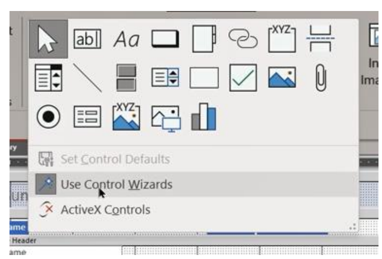
   - Form Name: **Switchboard** (the form you want to open).
   - View: **Form**
   - Window Mode: **Normal**
   - We do not need any filter or condition or Data mode.
8. Right click the macro tape and save the macro as **AutoExec** (A and E are capital letters).
9. Close the Macro.
10. You can run the macro to test Double click to see switchboard open.
11. To test it if it works when Database open close and open the database.

12. Close your switchboard.

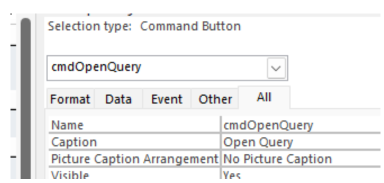
Lab 15D: Using Message Boxes to Notify Users

1. Continue using file: **Lab16A_Start.accdb**
2. We want to show a Message Box to user when he/she opens a specific form.
3. Create ➔Macros & Code➔ Macro.
4. Select Action: **Open Form**.
    a. Form: **frmCustomerInformation**
    b. View: **Form**
    c. Window Mode: **Normal**
5. Go to a second Action.
6. Select **MessageBox** Action.
    a. Message: **Please check if the customer exists before creating a new record.**
    b. Beep: **Yes**.
    c. Type: **Information**.
    d. Title: **Please Check Customer!**
7. Save your macro as: **mcrCheckCustomer**.
8. From Macro Design Tab click: **Run!**
9. The macro runs, form open and a message appears.
10. See that the title bar, the message, and the Icon(information) all as you have selected.
11. Click OK to close the message.
12. Use the Close Button on the form to close.
13. Close the Macro and Save as **mcrCheckUserInOpen**.

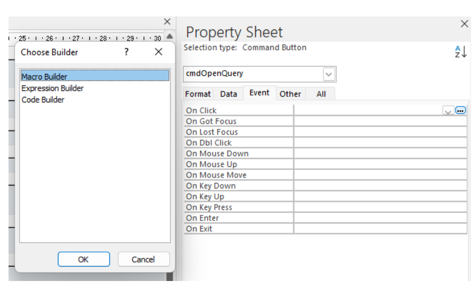
Lab 15E: Automate Parameter Queries with Macros



1. Continue using file: **Lab16A_Start.accdb.**
2. Open report **rptOrderSummary** in Design View.
3. First Disable Control Wizard.
4. Drag and Drop Button Control on the right side of Report Header.
5. As you see the Wizard did not start and only a Button is added
6. In the property sheet make sure the button is selected.
7. In **All Tab** change name to : **cmdOpenQuery**.
8. Change Caption to: **Open Query**.



9. We want to create a macro that executes when this button is clicked.
10. In **the Event Tab** in **On Click** event click the ellipsis and select **Macro Builder** and click OK.
11. In the query builder select action: **Open Query** and fields:
    a. Query Name: **qryOrdersByDate**.
    b. View : **Datasheet**.
    c. Mode: **Read Only**.



12. Check your report in report view.
13. Notice that the button does not show if you open report in **Print Preview**.

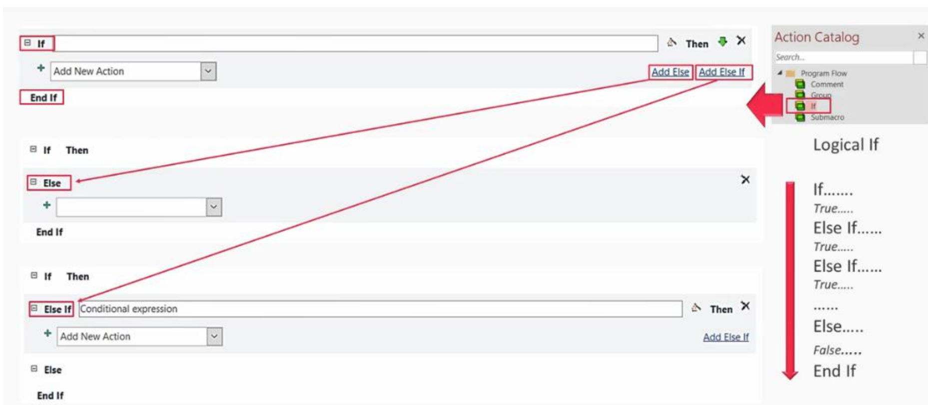
Lab 15F: Open a form from another form using Macro

1. Continue using file: **Lab16A_Start.accdb**
2. In **frmOrdersAndItems** add a button that opens **frmProducts** using a Macro.
3. Try first to create a macro that opens the frmProducts and show all products.

Advanced Topic

4. Then try to create a Macro that opens a frmProducts and only shows the details of the product shown in the sub from frmOrderItems.
5. Hint: Open frmProducts to be open one, then create the macro that get the value of ProductID from the sub form frmOrderItems from inside the frmOrdersAndItems.
6. Your expression in where conditions should be like this :
   [ProductID]=[Forms]![frmOrdersAndItems]![frmOrderItems].[Form]![ProductID]

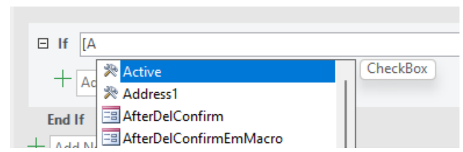
Logical IF Control Flow



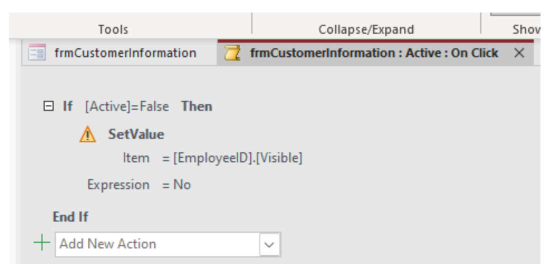
Lab 15G: Hiding /Unhiding Field Controls with Macros

1. Continue using file: **Lab16A_Start.accdb**
2. We want to build a macro that hide and unhide a field control based on the value of another field.
3. Open **tblCustomers**.
4. Notice we have some inactive customers.
5. We want if the customer inactive we do not want to see the employee field at all on the form.
6. Close the customer table.
7. Open **frmCustomerInformation** in design view.
8. Go to **Status** tab in the form.
9. We want to add another field in the status tab.
10. We want to Add the employee field.
11. From **Add Existing Field** pane.
12. Click show all tables if not all fields are shown.
13. Drag **EmployeeID** field to the form.
14. Change the label to Employee.
15. Save the form and go to Form view.
16. Click on Status Tab.
17. Go to Record No. 6.
18. You can see this Customer is not active and an employee is shown.

19. We want to build a macro that if the customer is inactive the employee field does not show up.
20. Go back to Design View.
21. Select the Active Check box (not the label).
22. Open Its Property Sheet.
23. Make sure that you are in the property sheet of Active check box.
24. If not select it from the drop-down Menu.
25. On **the Event tab** of property sheet go to **OnClick** Event.
26. Click **Elapses** and select **Macro Builder**.
27. For this Macro we will use **IF THEN** statement.
28. From Action Drop down select IF.
29. Notice it gives you **IF** and at the end of the right there is **THEN** and at the end there is **End IF**.
30. You also have the option to **Add Else** or **Add Else IF**.
31. That is if you have multiple Criteria.
32. In our case we have only one Criterion.
33. In IF Box start write
34. Enter an open square Bracket [and then **A.** it will give you Active check box.
35. Double click to select and it will add and close the Square Bracket.

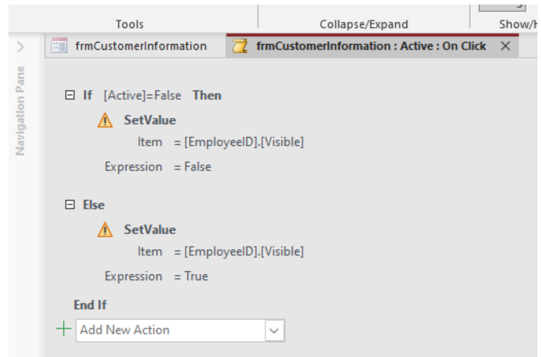


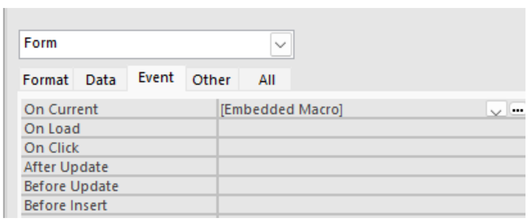
36. Complete the sentence of condition **[Active] = False**.
37. Under the condition statement add a new **Action**.
38. Select **setValue** from the drop-down list.
39. You will not find 😊 .
40. Not all actions are shown until you asked to be shown all.
41. In the **Macro Design** Tab in the ribbon in the Group **Show/Hide.**
42. Click **Show All Actions.**
43. Notice it has a warning symbol on it.
44. That is because those hidden actions are impacting your data and so you must be cautious when you use them.
45. Now you can find **setValue** in the list (Notice it show a warning symbol).
46. It have two parameters: The **Items** and **Expression** and both are required.
47. In the Item start writing : **[E** … and select [**EmployeeID**].
48. Write Period after that "**.**" And write **Visible** (when you write V a drop down shown to select from).
49. In expression write **No.**
50. Save and Close your Macro.
51. Now test your Macro.
52. Go to your form View.
53. Navigate to Record No. 6.
54. Go to Status Page.

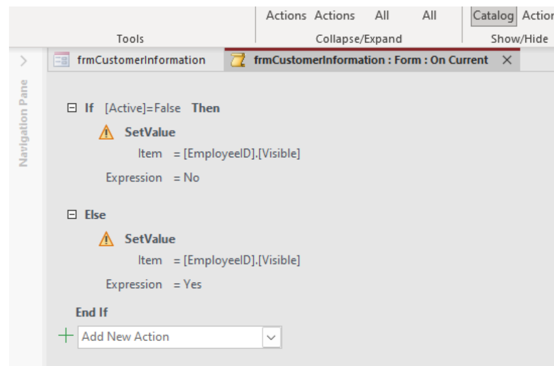


55. Go Check the Uncheck the Active Check box The Employee field disappears.
56. Now notice that when you click it back it doesn't show back.
57. That is because you did not say what to do if it was TRUE.
58. Go and adjust your code like the one in the Figure.
59. Notice also it has a problem when you navigate from record to another.
60. Go to form **Current** event and add the same Logic again.

Close your form.



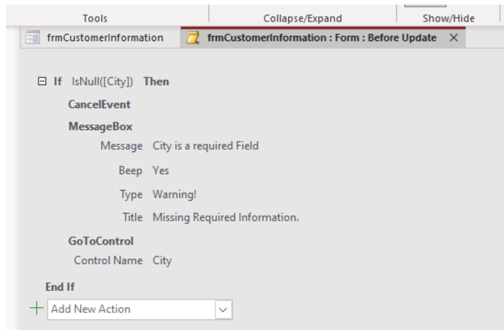




Lab 15H: Using Macros to Validate Data Entry

1. Continue using file: **Lab16A_Start.accdb**
2. We want to create a Macro that Validate data entry in a form.
3. Open **frmCustomerInfromation** in design view.
4. Open the property sheet.
5. Make sure that your selection is **Form**.
6. In the **Event** tab click on the **before update** event.
7. That event happens when you try to move to another record and the data should be updated and saved.
8. So before update means: "before data is saved run this macro".
9. Go to elapses and chose macro builder.
10. To validate data, we will use an **IF** action.
11. In condition type **is** and a list of different function will show up.
12. Double click **isNull** which means Is Empty.
13. Type **Ci** and chose **city** from the list and close the parentheses).
14. This means If the city field is empty.
15. In the action chose Action: **CancelEvent**.
16. That means if the city is empty do not save the information in the form.
17. So, the data on the form will not be updated.
18. And we also want to show a message.
19. So we would add another action:**MessageBox** .
20. Add message:
    - Message:**The city field is required**.

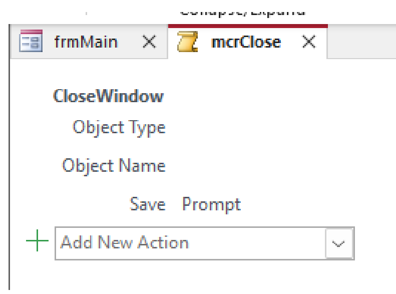
- Type: **Warning**!.
- Title: **Missing Required Information**.



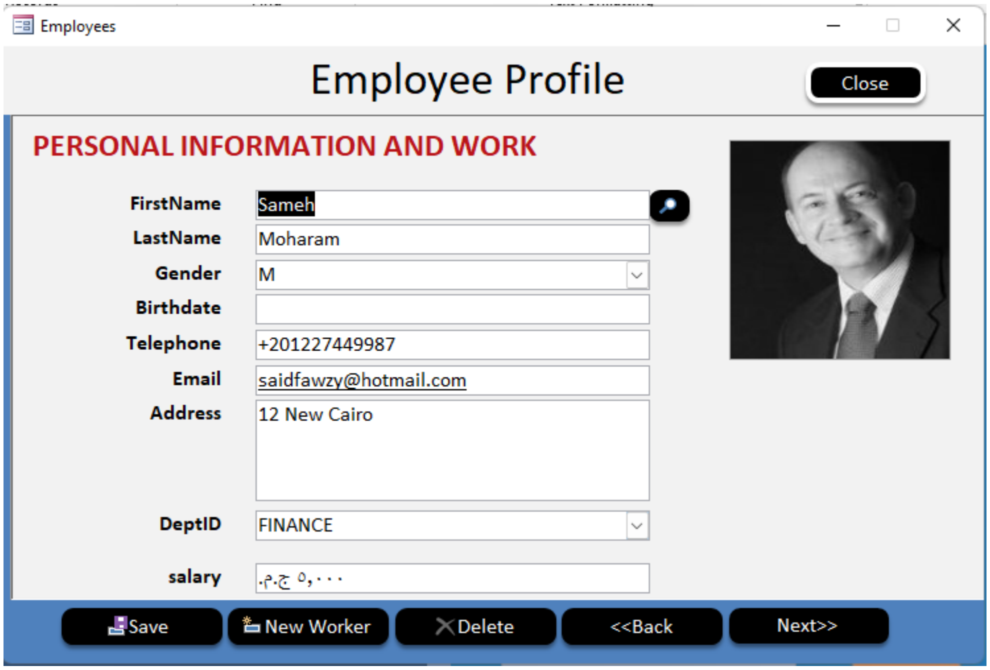
21. It would be nice if you put the **insertion point** in the city field to allow the user to complete the field required.
22. Add another action: **GoToControl**.
23. In control name start typing **Ci** and chose **city**.
24. Save and close the Macro.
25. Test your Macro: Go to the Form View.
26. Click on the New Record Button on the Navigations.
27. Add new Record Company Name **ABC** ….
28. Address: 123 Main Street
29. Skip City field
30. In State CA
31. Zip 95814
32. Phone 555 777 7777.
33. Press tab button twice (because you have a button at the end of the form)
34. You will receive the warning message you have created.
35. If you press Ok, you will get the cursor on the city field.
36. In city type Sacramento.
37. Press tab many times to save the record.
38. It will save the record and go to the next Record.
39. Close your form and save.

Build Your Project Part V

Create Stand Alone Macro



1. Create macro **mcrClose**.
2. Add only one Action Close Window with no Argument.
3. Save your Macro.
4. Create Close Button on every form
5. Go and do the following steps to forms:
    a. frmDepartments.
    b. frmEmployees.
    c. frmProjects.
    d. frmPrject_Employees.
6. For each Form do the following:
    a. Create a button without wizard.
    b. Name=cmdClose.
    c. Caption = Close.
    d. Event➔On Click = mcrClose.
    e. Go and check your result in Form View.
    f. Save your form.


Employees
Employee Profile
Close
PERSONAL INFORMATION AND WORK
FirstName
Sameh
LastName
Moharam
Gender
M
Birthdate
Telephone
+201227449987
Email
saidfawzy@hotmail.com
Address
12 New Cairo
DeptID
FINANCE
salary
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