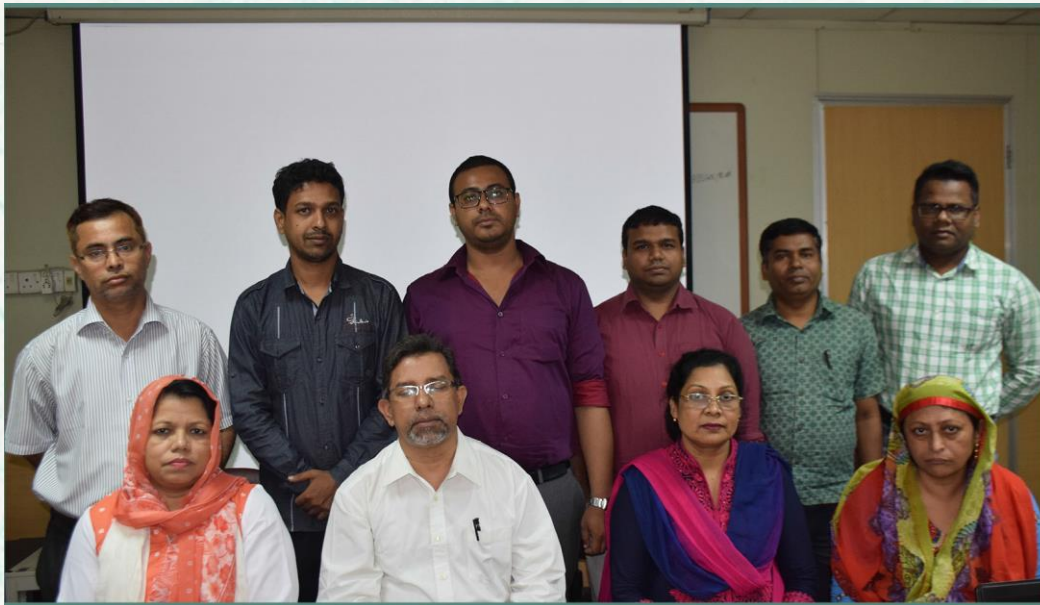




# Proceedings of the training workshop on MS access database management system



**Bangladesh Forest Department**  
**23 -25 April 2018**

**UN-REDD**  
PROGRAMME



The UN-REDD Programme, implemented by FAO, UNDP and UNEP, has two components: (i) assisting in developing countries to prepare and implement national REDD strategies and mechanisms; (ii) supporting the development of normative solutions and standardized approaches based on sound science for a REDD instrument linked with the UNFCCC. The programme helps empower countries to manage their REDD processes and will facilitate access to financial and technical assistance tailored to the specific needs of the countries.

The application of UNDP, UNEP and FAO rights-based and participatory approaches will also help ensure the rights of indigenous and forest-dwelling people are protected and the active involvement of local communities and relevant stakeholders and institutions in the design and implementation of REDD plans.

The programme is implemented through the UN Joint Programmes modalities, enabling rapid initiation of programme implementation and channelling of funds for REDD efforts, building on the in-country presence of UN agencies as a crucial support structure for countries. The UN-REDD Programme encourage coordinated and collaborative UN support to countries, thus maximizing efficiencies and effectiveness of the organizations' collective input, consistent with the "One UN" approach advocated by UN members.

The UN-REDD Bangladesh National Program is implemented by the Bangladesh Forest Department under the leadership of Ministry of Environment and Forests. United Nations Development Program (UNDP) and Food and Agriculture Organization (FAO) are the two implementing partners.

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### **Disclaimer**

This report is designed to reflect the activities and progress related to UNJP/BGD/057/UNJ UN-REDD Bangladesh National Programme. It does not reflect the official position of the supporting international agencies including FAO and UNDP should not be used for official purposes. Should readers find any errors in the document or would like to provide comments for improving the quality they are encouraged to contact one of above contacts.

## **EXECUTIVE SUMMARY**

A training on Access Database management system with a particular focus on MS Access 2013 was held at the BBS in Dhaka, 23<sup>rd</sup> April 2018. The training organized by the Forest Department of Bangladesh and the Food and Agriculture Organization under the UN-REDD programme aimed to introduce the participants to the concept of database and managing data using MS Access 2013. During the training, participants have desktop with MS Access software which are provided by BBS Lab.

Eleven participants (six male and five female) attended the training from various department of Bangladesh Forest Department, the Food and Agriculture Organization. Based on the responses collected from the evaluation of the training, it appeared that participants found the training relevant and useful to their daily work.

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## 1. INTRODUCTION

The MS Access database management system training for forest was implemented from April 23th to April 25th 2018 at the Bangladesh Bureau of Statistics in Dhaka. To increase productivity of Bangladesh forest department personnel, who are end level ICT equipment and facility users. The requirement analysis was performed with the close consultation with BFD officers and the end level users, reviewed by them; and finally training content was prepared. It is observed that many time gets wasted with small or silly lack of knowledge and also involves a significant amount of maintenance cost. Sometimes the documents they prepare contains lack of information. So, this training will guide them in developing and concept of Database and MS Access to reduce time and cost by prepare their report with proper information.

The main objective of this training is-

- Able to plan, design, create, manipulate and query database.
- Understand about relationship with multiple table.
- Capable of using Microsoft Access to generate reports.
- Understand terminology and produce input user forms.

## 2. OBJECTIVES

This training workshop aims to enhance the capacity of the IT experts of the Bangladesh Forest Department to

- plan, design, create, manipulate and query database
- enter, search, analyse data using relational databases
- understand and design relationships with multiple tables
- use Microsoft Access to generate reports
- understand the Access terminology and produce input user forms

## 3. SUMMARY OF THE WORKSHOP

The training was organized into 7 sessions to cover the following elements:

- General introduction of relational database.
- Working with table in design view.
- Planning table relationships.
- Export/Imports records and tables from another access database and excel file.
- Create and navigate form, query, and report.
- Learn how to manage database.
- Exercise tree species database

### 3.1 Session 1: General Introduction

The presentation focused on the context of relational database management system (RDBMS). RDBMS have been common choice for storage of information in database used for financials records, manufacturing and logistical information, personal data, and other applications since 1980s. Relational database have often replaced legacy hierarchical databases and network databases because they were easier to implement and

administer. In **Error! Reference source not found.** there have a relational database management system structure. There are lots of application for RDBMS as per following:

- Oracle
- MySQL
- SQL Server (Microsoft)
- DB2 (IBM)
- Informix
- MS Access

In this training we are using MS Access application for RDBMS.

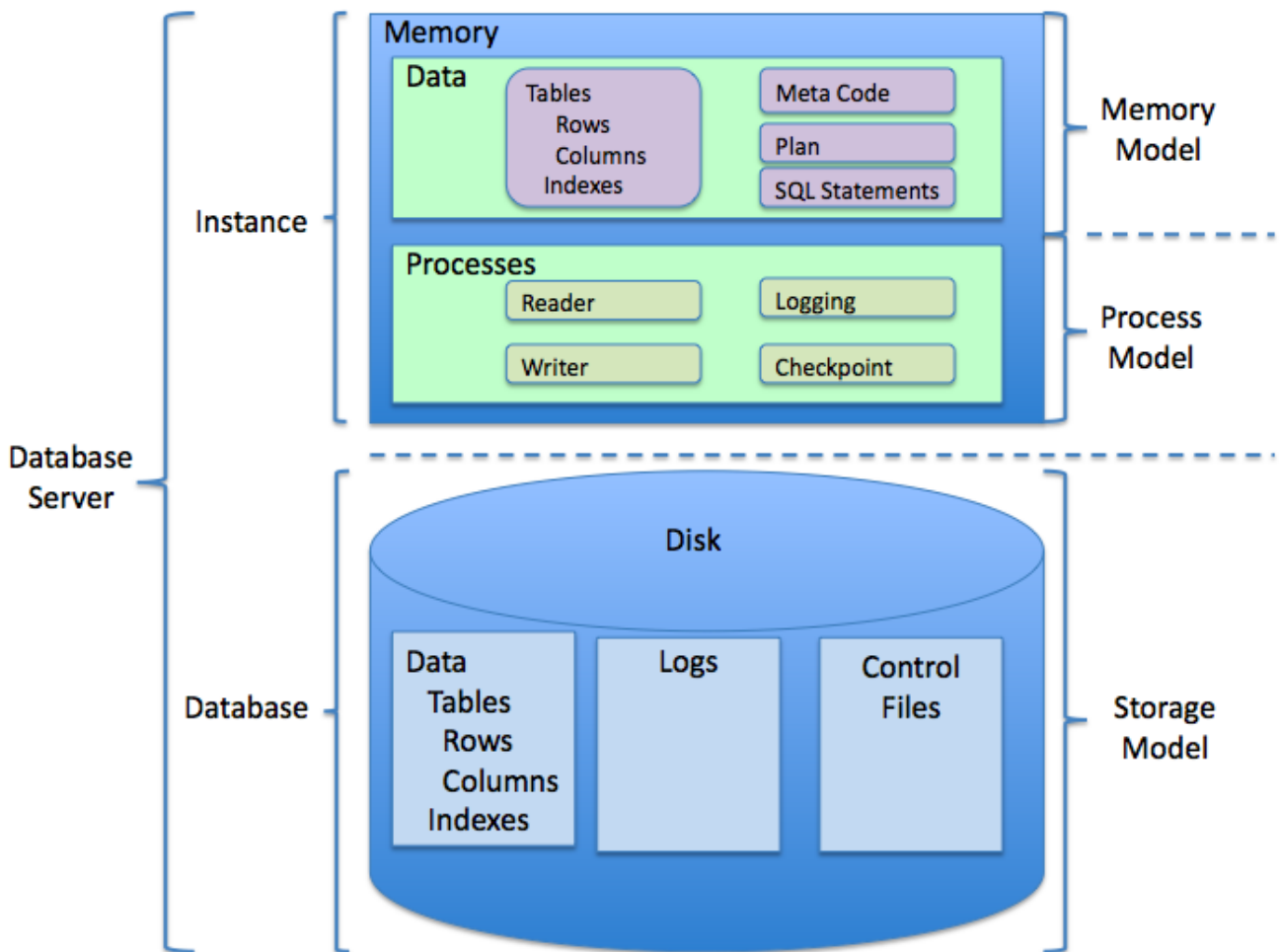


Figure 1. The structure of relational database model

We are using MS Access for RDBMS for following issue:

- By MS Access we are done all job by graphical representation. So, its easy to understand participants.
- MS Access is the best used for long-term data storage and/or data sharing.
- MS Access is used for minor data collection, manipulation, and especially visualization.
- By MS Access we can easily export or import data from excel/SPSS/XML etc.

## 3.2 Session 2: Working with table in design view

Most MS Access objects are displayed in design view, which allow us to work with the underlying structure of our tables, queries, forms, and reports. To create a new table in design view, we define the fields that will comprise the table before enter data. In design view for tables, each row corresponds to a field. We can edit, insert, and delete fields in in our database tables in design view. We insert a field by adding a row, while we delete a field by removing a row. We can also change field order by dragging a row selector to a new position.

### Create or modify a table in design view:

1. Click on create tab, and then click the table design button, or select the table you want to modify in the Navigation pane, and then click the design view button.

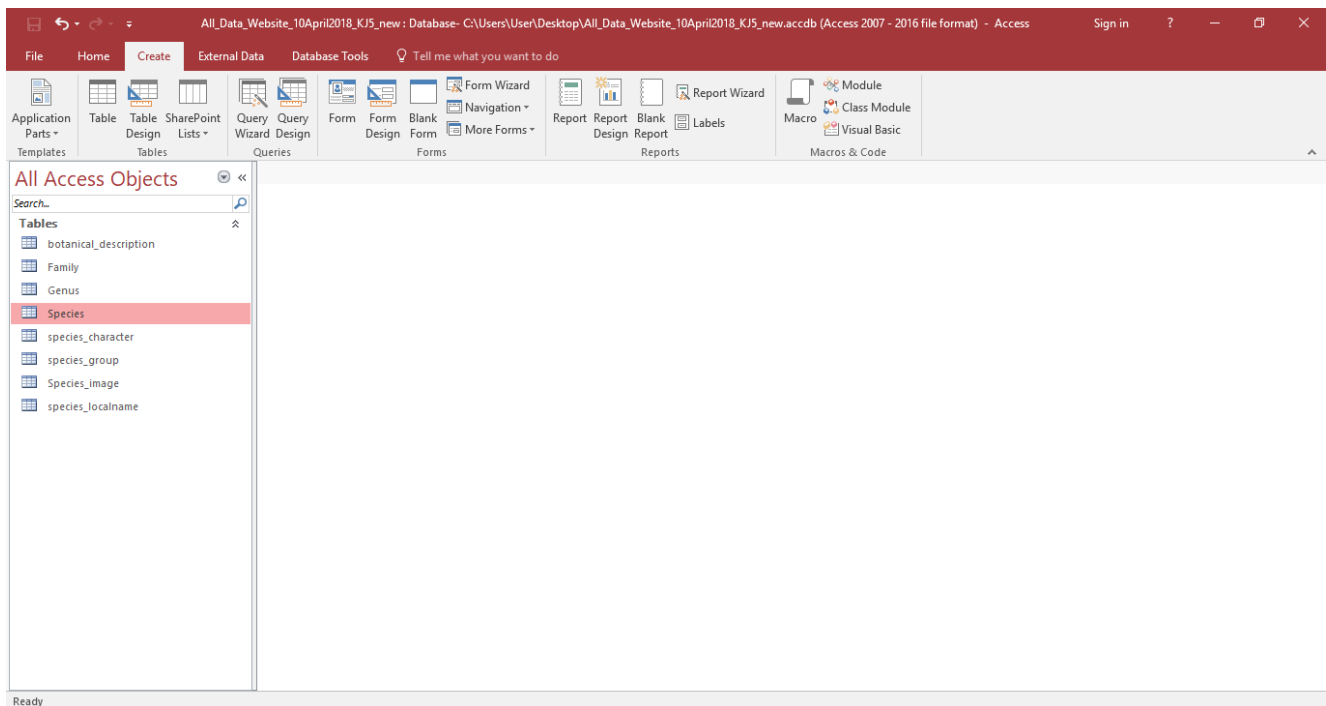


Figure 2. Create table from design view

1. Click in a **field name** cell, and then type a modification field name.
2. Click in a **data type** cell, click the data type list arrow, and then click a data type.
3. Click in a **description** cell, and then type a description. If the **property update options** button appears, select an option, if necessary.
4. To insert a field, click the row selector below where you want the field, and then click the **insert row** button on the ribbon.
5. To delete a field, click the row selector for the field you want to delete, and click the **delete rows** button on the ribbon.
6. Click the save button on the quick access toolbar, and then if necessary, enter a table name and click **ok**.
7. When it's done, click the close button in the table window.



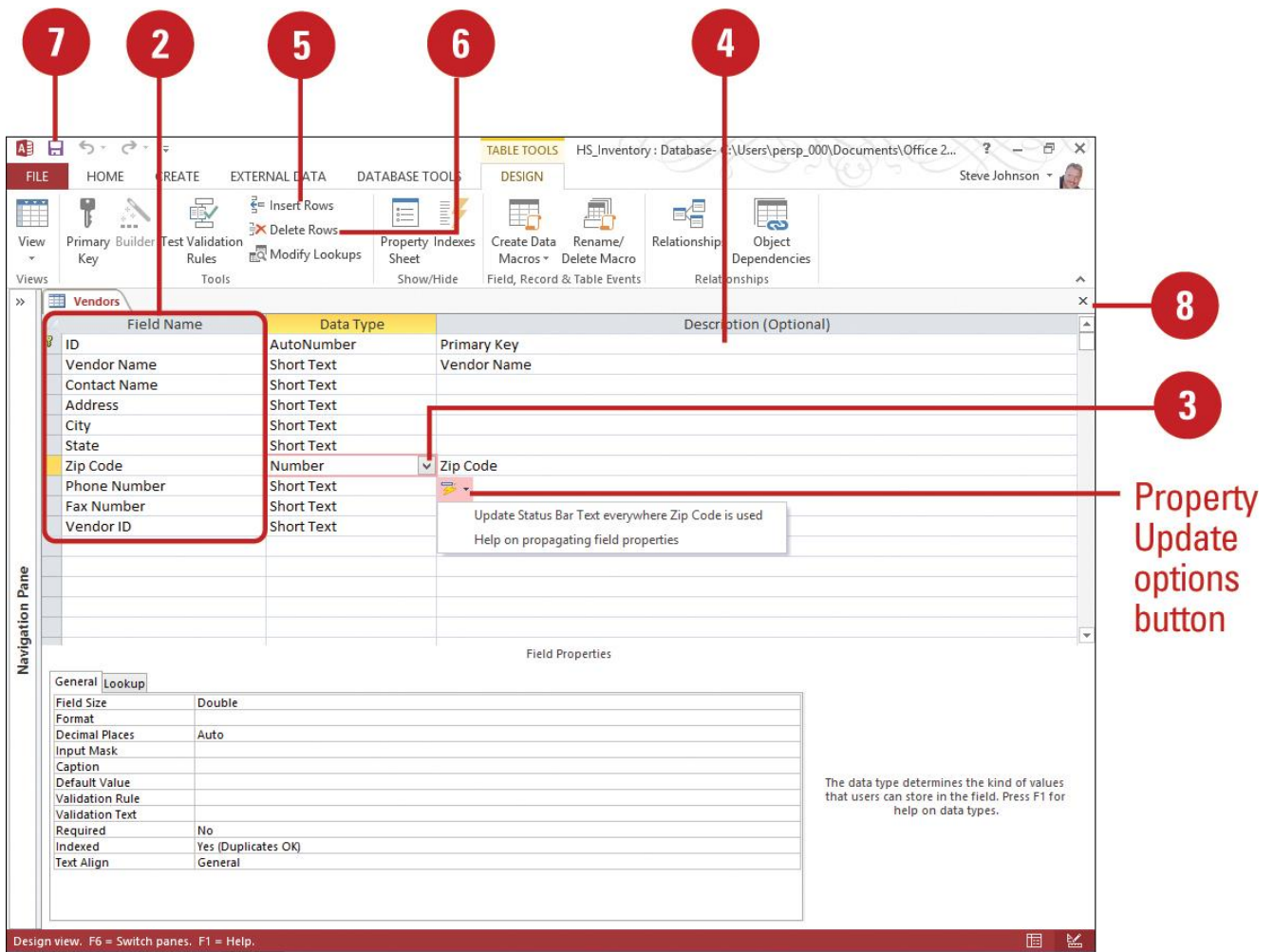


Figure 3. Table design view

### Specifying a primary key in design view

A primary key is one field in a table that provide a unique identifier for every row. We use the primary key in other tables to refer to the table with the primary key. In design view, we can use the primary key button to assign or remove the primary key designation for selected field.

1. In design view, create a field that will be that table's primary key, and then select an appropriate data type.
2. Click the row selector of that field.
3. Click the **primary key** button.



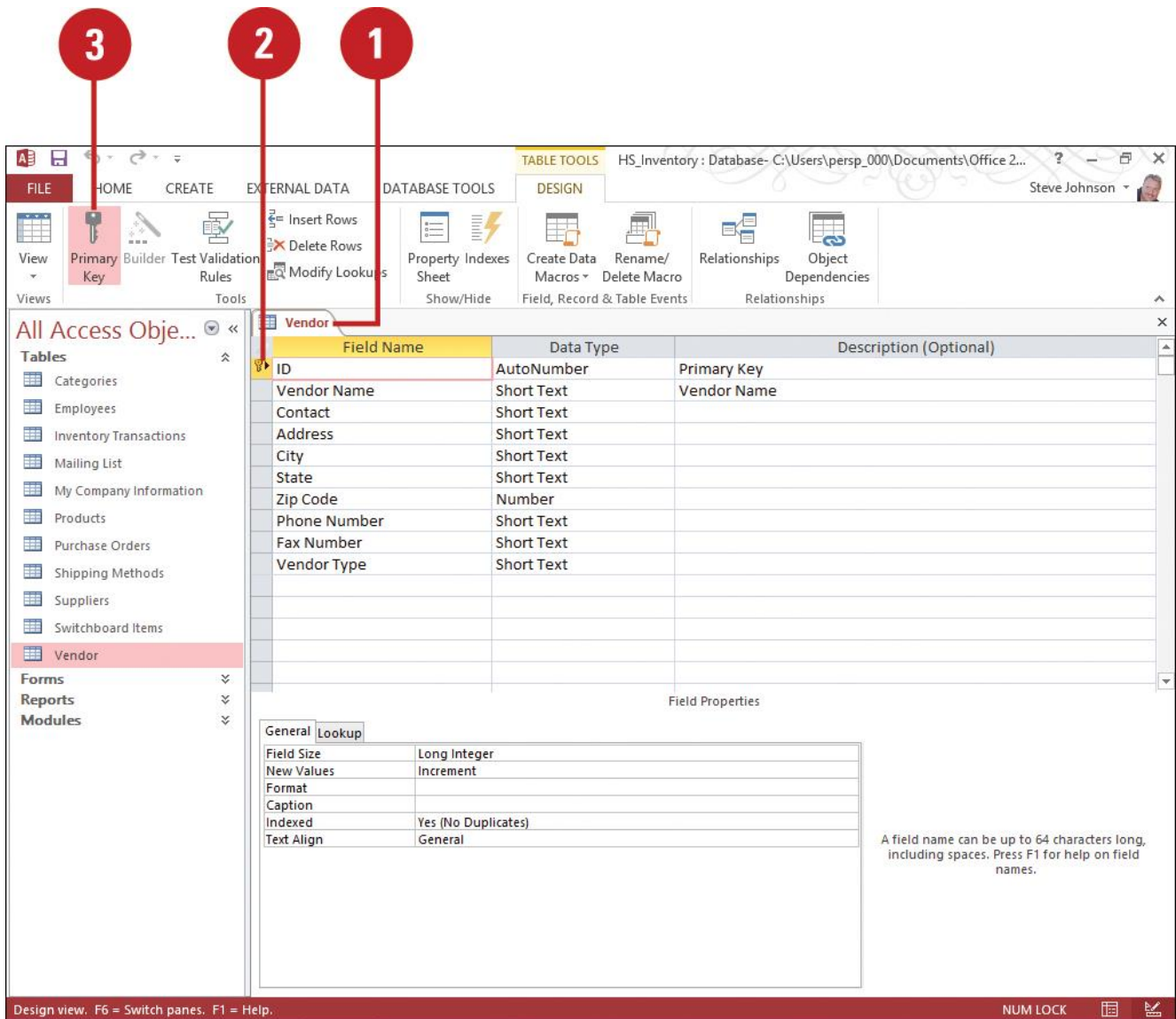


Figure 4. Primary key selection in a table

- To remove a primary key, delete any table relationship

### 3.3 Session 3: Planning table relationship

When we place data into separate tables, we need some way of merging this data together for forms and reports. We can do this by establishing table relationship that indicate how data in one table relates to data in another.

#### Specifying common fields

Data from several different tables is related through the use of common fields. A common field is a field existing in two or more tables, allowing us to match records from one table with records in the other tables. For example, the customers table and the orders table might both contain a customer id field, which functions as primary key that identifies a specific customer. Using customer ID as a common field allows us to generate report containing information o both the customer and the orders the customer made. When we use primary key as a common field, it is called a foreign key in the second table.

#### Building table relationships

There are three types of relationship: one-to-one, one-to-many, and many-to-many

A table containing customer names and a second table containing customer addresses exist in a one-to-one relationship, if each customer is limited to only one address. Similarly, a one-to-many relationship exists between the customer table and orders tables because a single customer could place several orders. In one-to-many relationship like this, the “one” table is called the primary table, and the “many” table is called related table.

Finally, if we allow several customers to be recorded on a single order (as in the case of group purchase), a many-to-many relationship exists between the customers and orders table.

**Table relationship**

Choice	Description
One-to-one	Each record in one table is matched to only one record in a second table, and visa versa.
One-to-many	Each record in one table is matched to one or more records in a second table, but each record in the second table is matched to only one record in the first table
Many-to-many	Each record in one table is matched to multiple records in a second table, and visa versa.

**Maintaining referential integrity**

Table relationships must obey standards of referential integrity, a set of rules that control how you can delete or modify data between related tables. Referential integrity protects you from erroneously changing data in a primary table required by a related table. You can apply referential integrity when:

- The common field is the primary table’s primary key.
- The related fields have same format.
- Both tables belong to same database.

Referential integrity places some limitations on you.

- Before adding a record a related table, a matching record must already exist in the primary table.
- The value of the primary key in the primary table cannot be changed if matching records exist in a related table.
- A record in the primary table cannot be deleted if matching record exist in a related table.

Access can enforce these rules by cascading any changes across the related tables. For example, access can automatically copy any changes to the common field across the related tables. Similarly, if a record is deleted in the primary table, access can automatically delete related records in all other tables.

As you work through these issues of tables, fields, and table relationships, you will create a structure for your database that will be easier to manage and less prone to data-entry error.

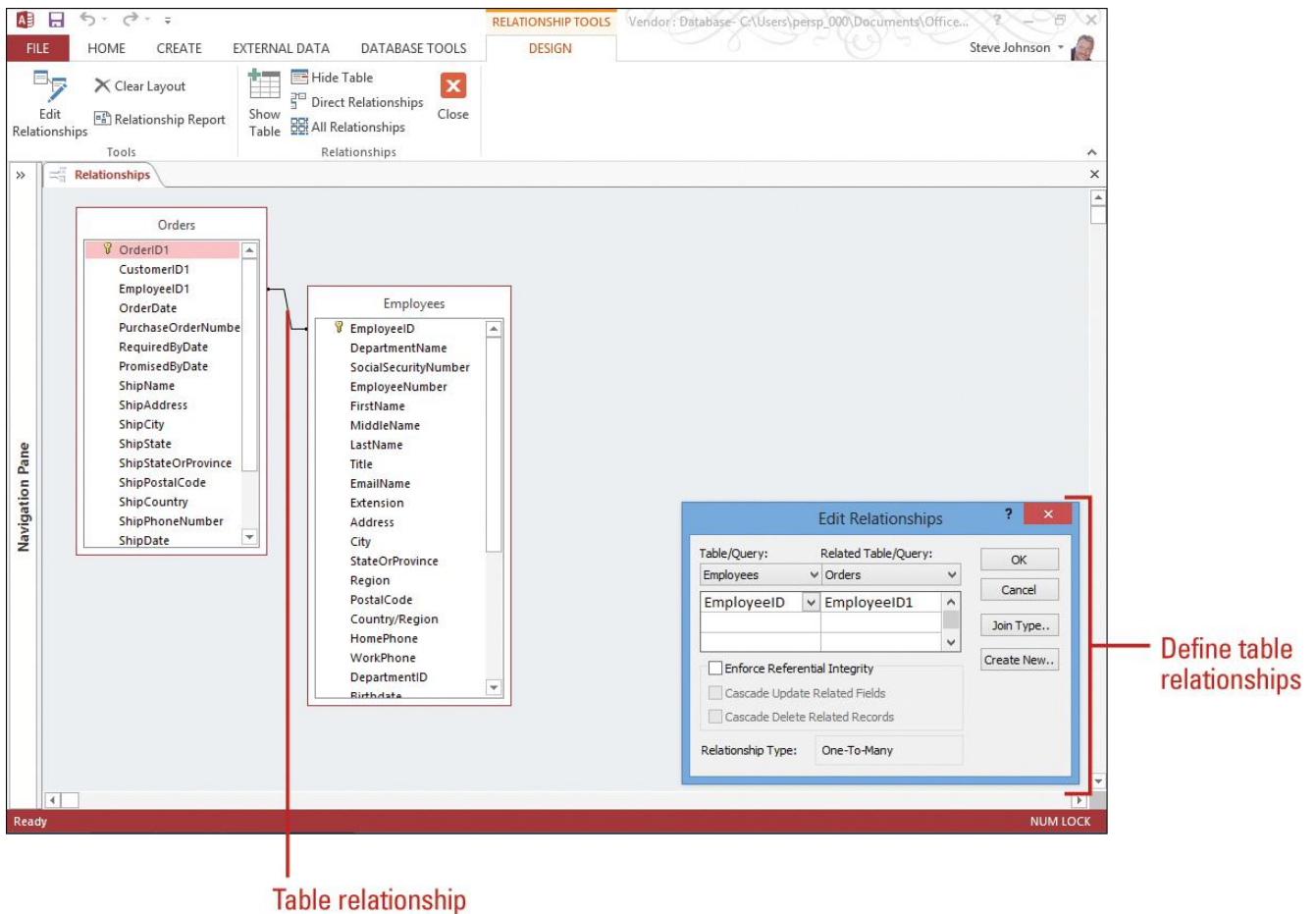


Figure 5. Table relationship

## Defining table relationships

Data from several different tables is related through the use of common fields. A common field is a field existing in two or more tables, allowing you to match records from one table with records in the other tables. Once you have a way of relating two tables with a common field, your next task is to express the nature of that relationship. There are three types of relationships: one-to-one, one-to-many, and many-to-many. You can define and manage relationships using buttons on the Database Tools tab. This gives you control over your table relationships and gives you a quick snapshot of all the relationships in your database. After you define a relationship, you can double-click the connection line to modify or add to the relationship.

1. Click the database tools tab.
2. Click the relationships button. If relationships already established in database, they appear in the relationships window. In this window, you can create additional relationships.
3. If necessary click the show table button to display the show table dialog box.
4. Click the tables tab
5. Click the table you want
6. Click add. The table or query you selected appears in the relationships window. Repeat steps 5 and 6 for each table you want to use in a relationship.
7. Click close.
8. Drag the common field in the first table to the common field in the second table. When you release the mouse button, a line appears between the two tables, signifying that they are related. Also, the edit relationship dialog box opens, in which you can confirm or modify the relationship.

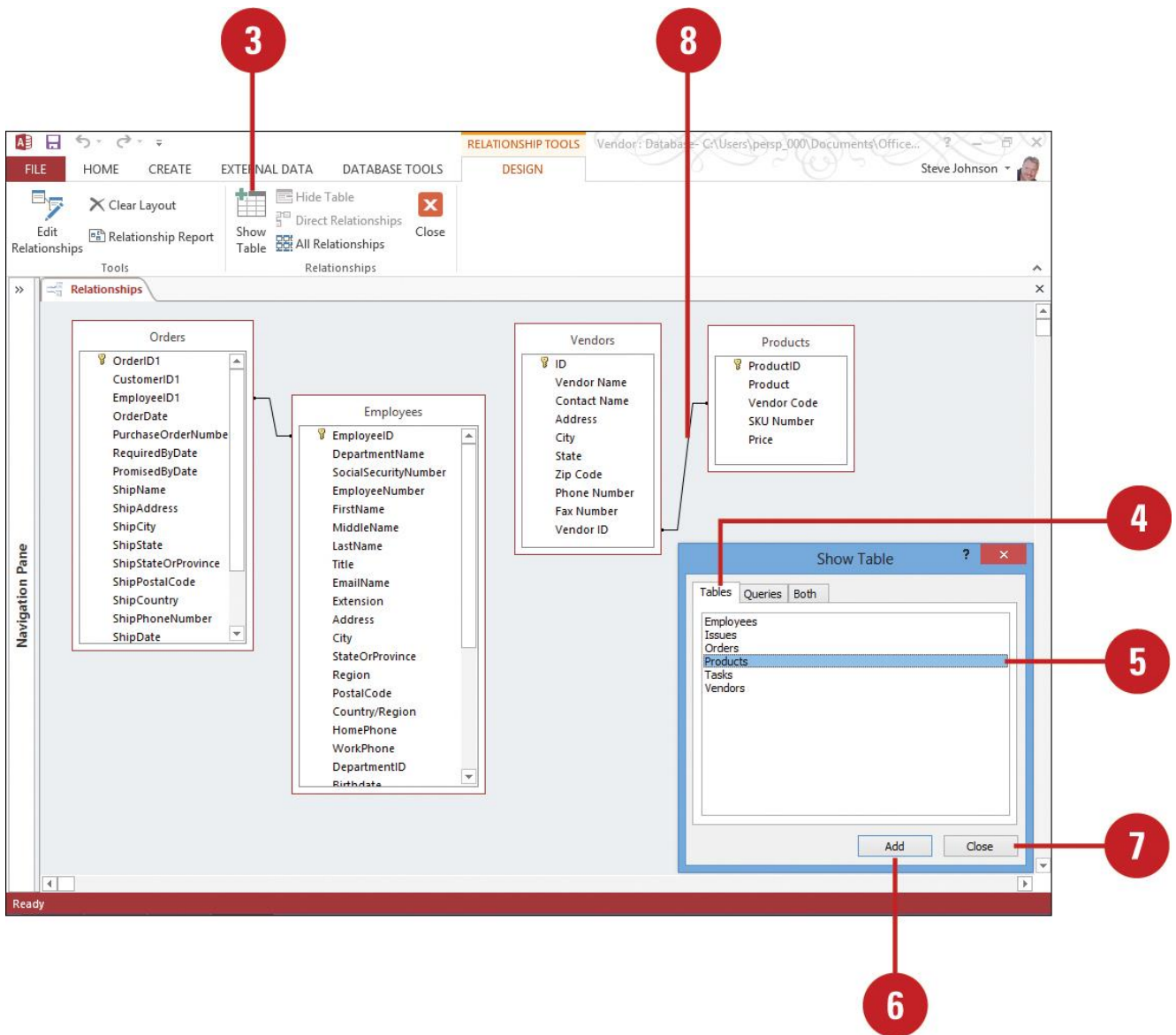


Figure 6. create relationship within two tables

9. Click the join type button if you want to specify the join type. Click ok to return to the edit relationship dialog box.
10. Click create to create the relationship.

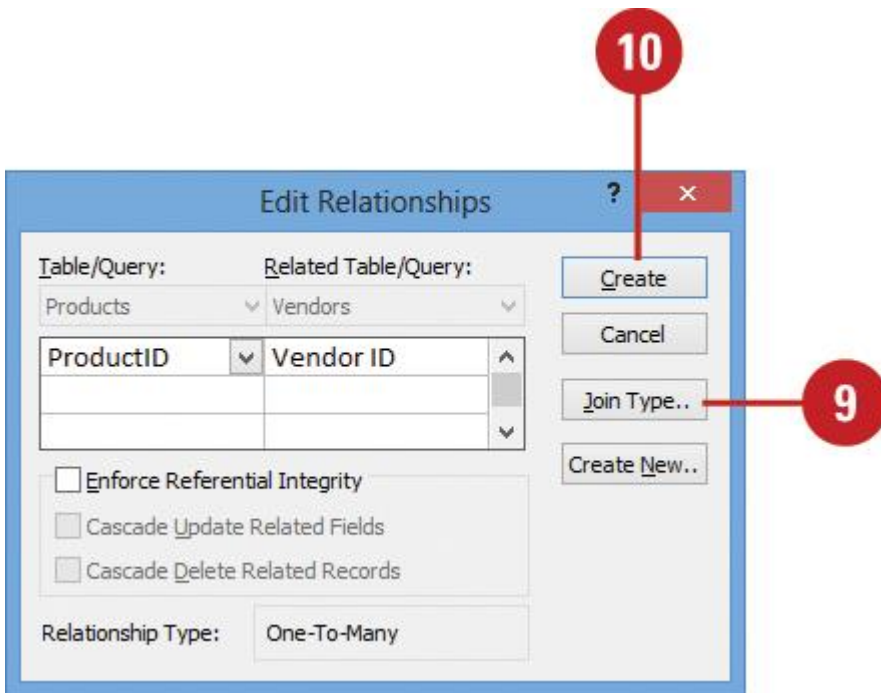


Figure 7. create relationship

### Join type

Join types	Description
Include rows only where the joined fields from both tables are equal	Choose this option if you want to see one record in the second table for every record that appears in the first table. The number of records you see in the two tables will be the same
Include ALL records from "xxx" (the first table) and only those records from "yyy" (the second table) where the joined fields are equal	Choose this option if you want to see all the records in the first table (even if there is no corresponding record in the second table) as well as the records from the second table in which the joined fields are the same in both tables. The number of records you see in the first table might be greater than the number of records in the second table.
Include ALL records from "yyy" (the second table) and only those records from the "xxx" (the first table) where the joined fields are equal	Choose this option if you want to see all the records in the second table (even if there is no corresponding record in the first table) as well as the records from the first table in which the joined fields are the same in both tables. The number of records you see in the second table might be greater than the number of records in the first table.

### Creating and printing a table relationship report

After you create a table relationship, you can create and print a report. In the Relationships window, the Relationship Report button creates a report with the currently displayed relationship and switches to Print Preview, where you can print the report. When you close Print Preview, the report appears in Design view. If you want, you can make changes to the report. To complete the process, you need to save and name the report or close it without saving it. Instead of printing the report, you can also use exporting tools in Print Preview to save the report in another format, including a PDF or XPS document.

1. Click the database tools tab.

2. Click the relationship button. If the relationships are already established in your database, they appear in the relationships window.
3. Do any of the following to display the table relationships you want to use to create report:
  - Hide tables. Click the table you want to hide, and then click the hide table button.
  - Add tables. Click the tables tab, click the table you want, click add, and then click close.
4. Click the relationship report button. The report appears in print preview.

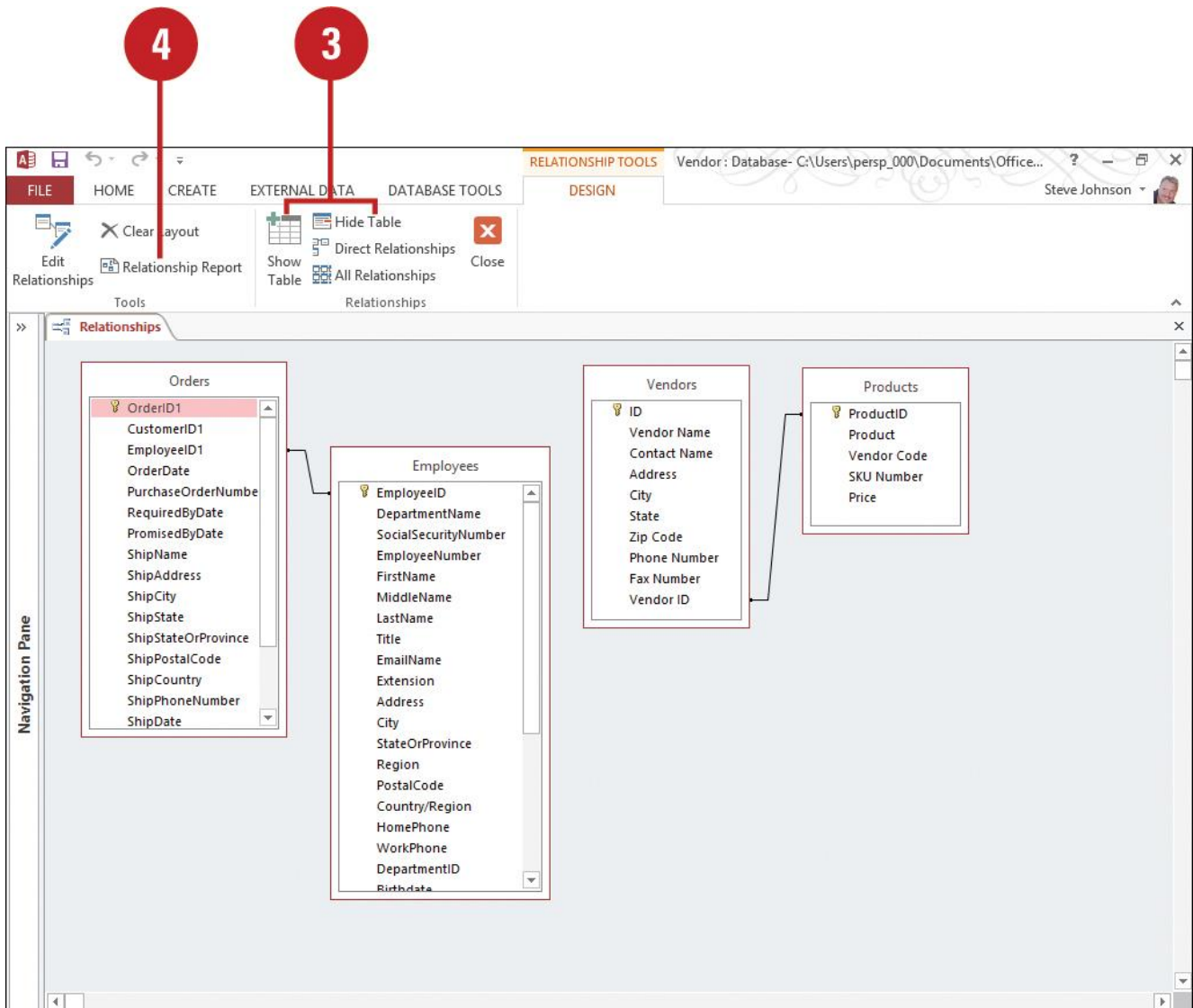


Figure 8. relationship report process

5. To print the report, click the print button, specify the settings you want, and then click ok.
6. Click the close print preview button. The relationships report appears I design view.



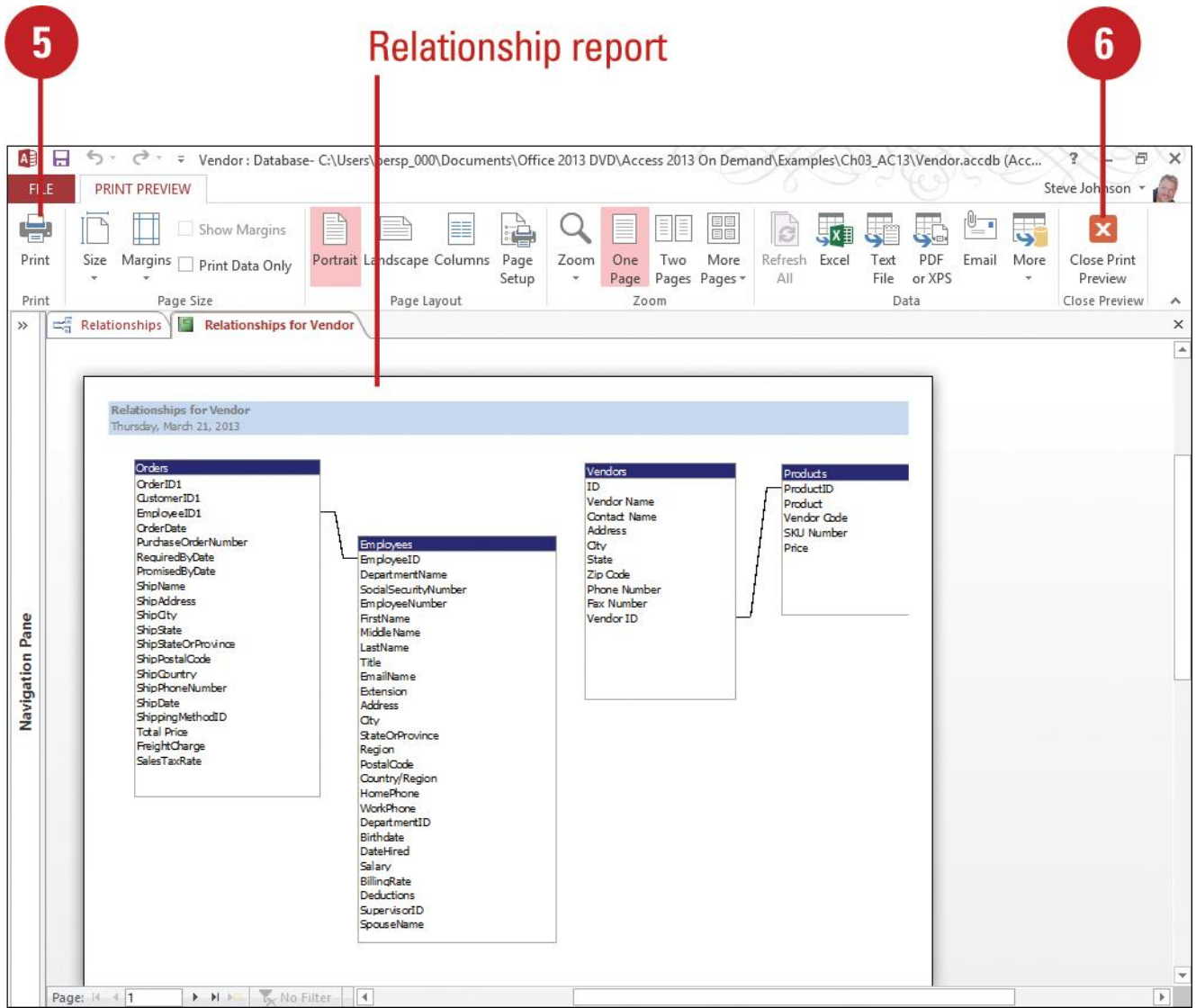


Figure 9. relationship report

7. Click the save button on the quick access toolbar.

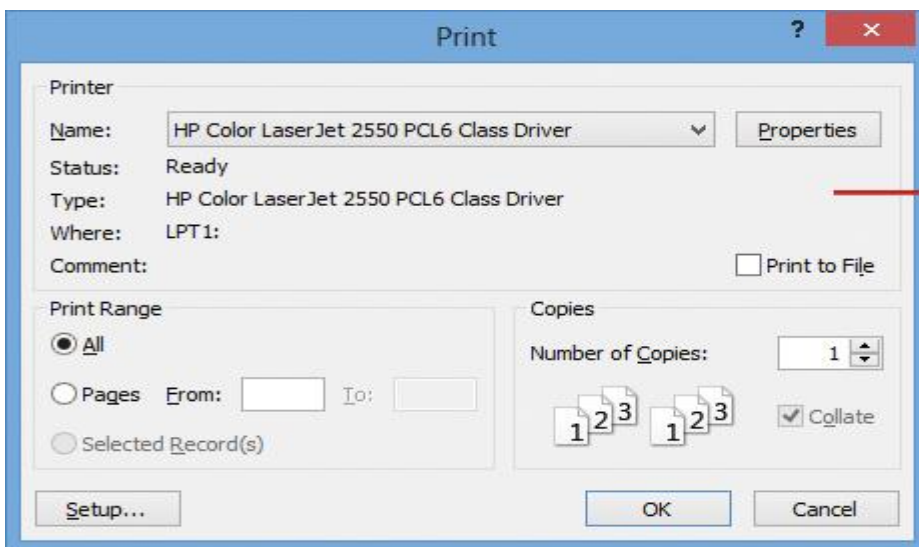


Figure 10 relationship report printing command



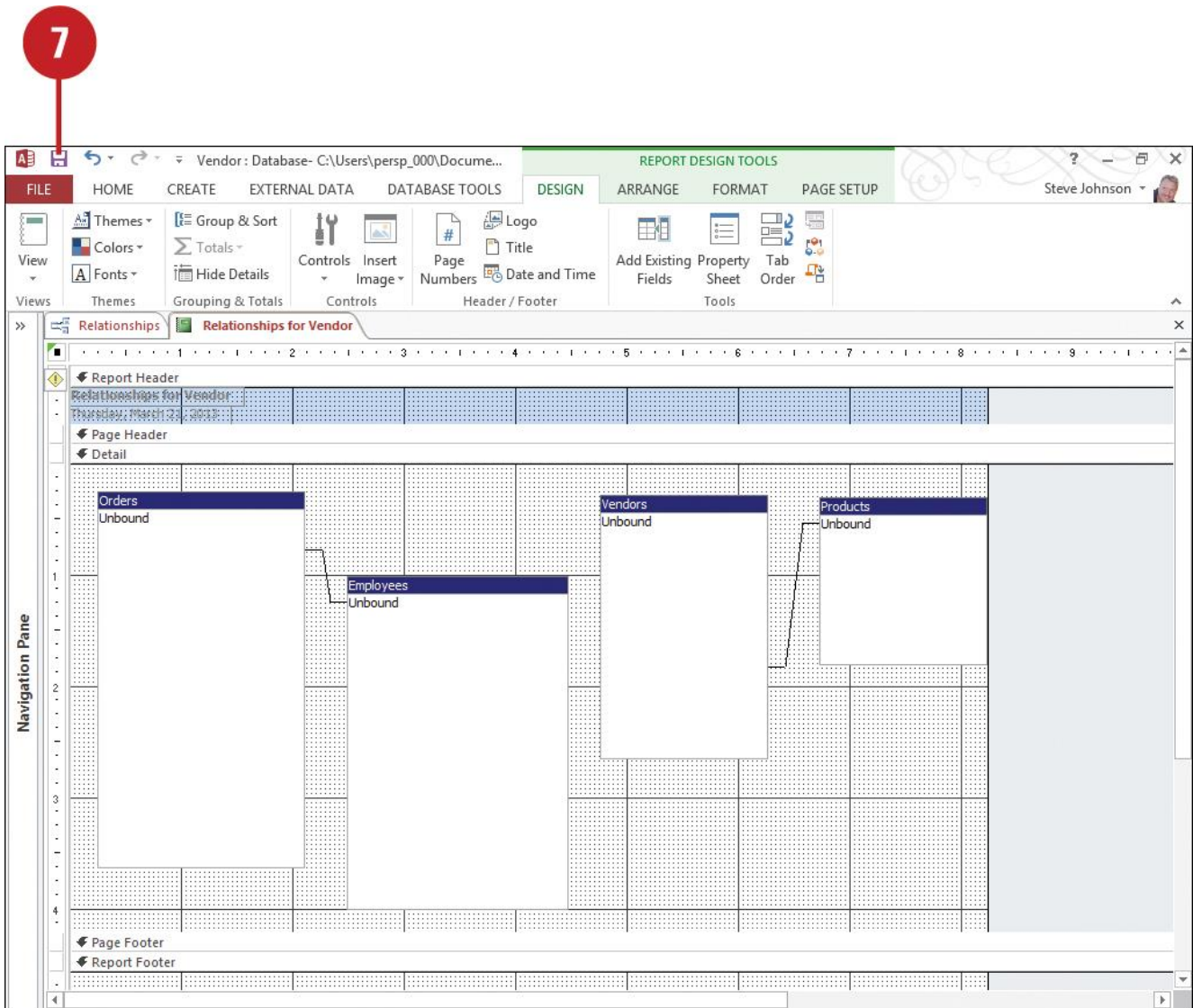


Figure 11. relationship report design view

8. Type a name for the relationship report.
9. Click ok.

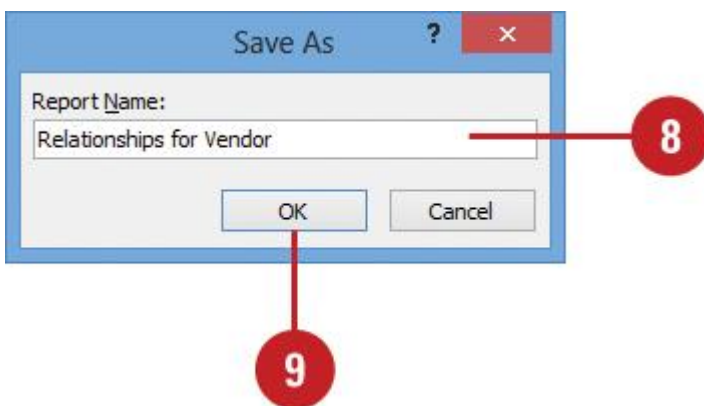


Figure 12. relationship report name change

### Ensuring Referential Integrity:

Table relationships must obey standards of referential integrity, a set of rules that control how you can delete or modify data between related tables. Referential integrity in table relationships keeps users from accidentally

deleting or changing related data. You can apply referential integrity when: the common field is the primary table's primary key; the related fields have the same format; or both tables belong to the same database. If a primary table contains a list of employees and related tables contain additional information about those employees, and an employee quits, his record is removed from the primary table. His records should also be removed in all related tables. Access allows you to change or delete related data, but only if these changes are cascaded through the series of related tables. You can do this by selecting the Cascade Update Related Fields and Cascade Delete Related Records check boxes in the Edit Relationships dialog box.

1. Click the **Database Tools** tab
2. Click the **Relationships** button.
3. Click the join line for the relationship you want to work with.
4. Click the **Edit Relationships** button.
5. Click to select the **Enforce Referential Integrity** check box to ensure that referential integrity always exists between related tables in the database.
6. If you want changes to the primary field of the primary table automatically copied to the related field of the related tables, click to select the **Cascade Delete Related Fields** check box.
7. If you want Access to delete records in the related tables whenever records in the primary table are deleted, click to select the **Cascade Delete Related Records** check box.
8. Click **OK**.

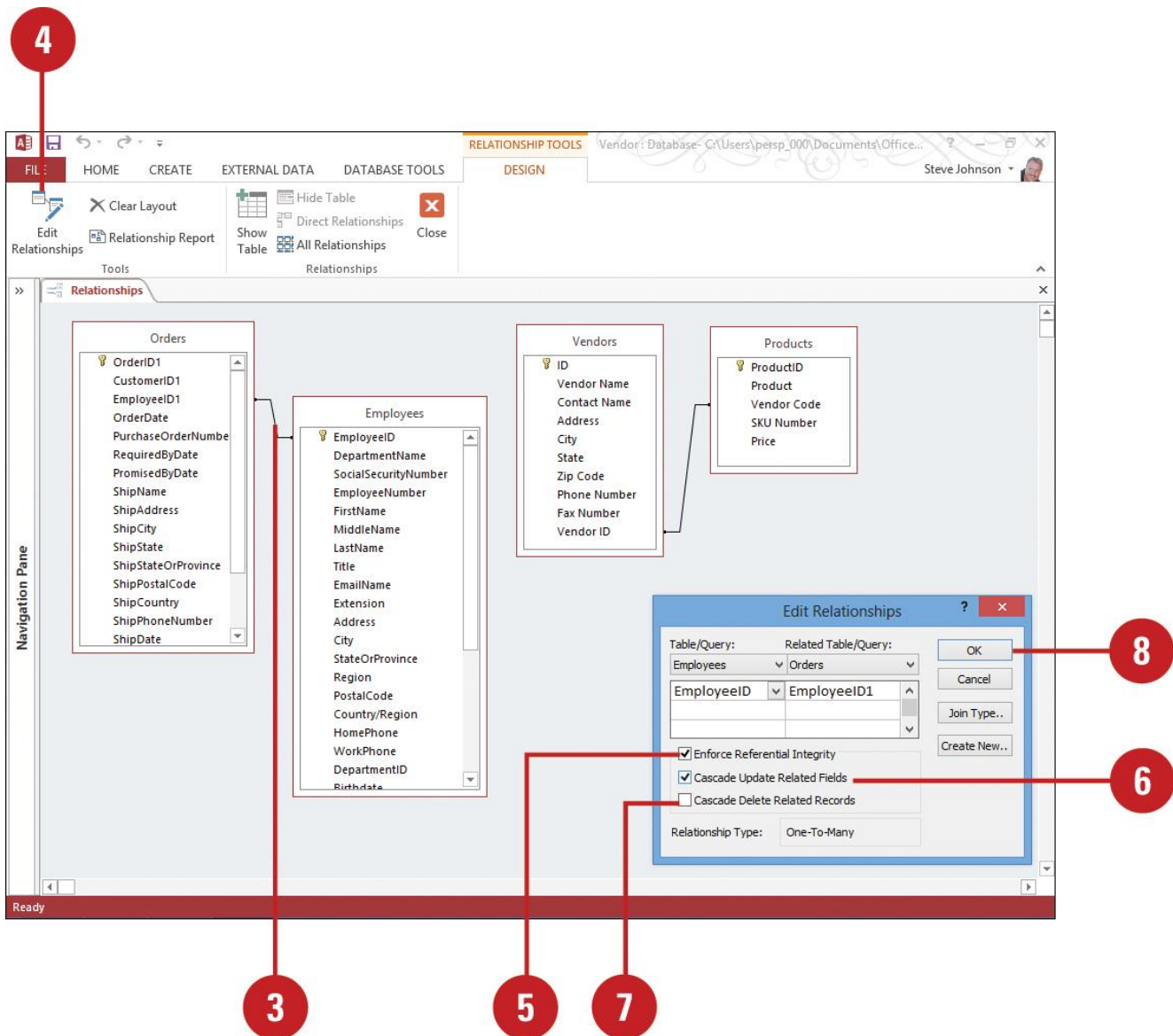


Figure 13. Relationship build

### 3.4 Sessions 4: Export/Imports records and tables from another access database and excel file

#### 3.4.1 Import data into tables:

We can create new tables from other Access database by importing and linking tables. When we import a table, we copy data from a table in one Access database and place it in a new table in our database. When we link a table, the data stays in its original location, but we can display and access that data from within our database. If data in the original database changes, the changes will appear in our linked database, too. We can also import data from other programs.

#### Import a table from a database:

1. Click the **External Data** tab.
2. Click the **Import Access Database** button.
3. Click **Brower**, locate and select the database file that contains the data you want to import, and then click **Open**.
4. Click the import option.

5. Click **Ok**.

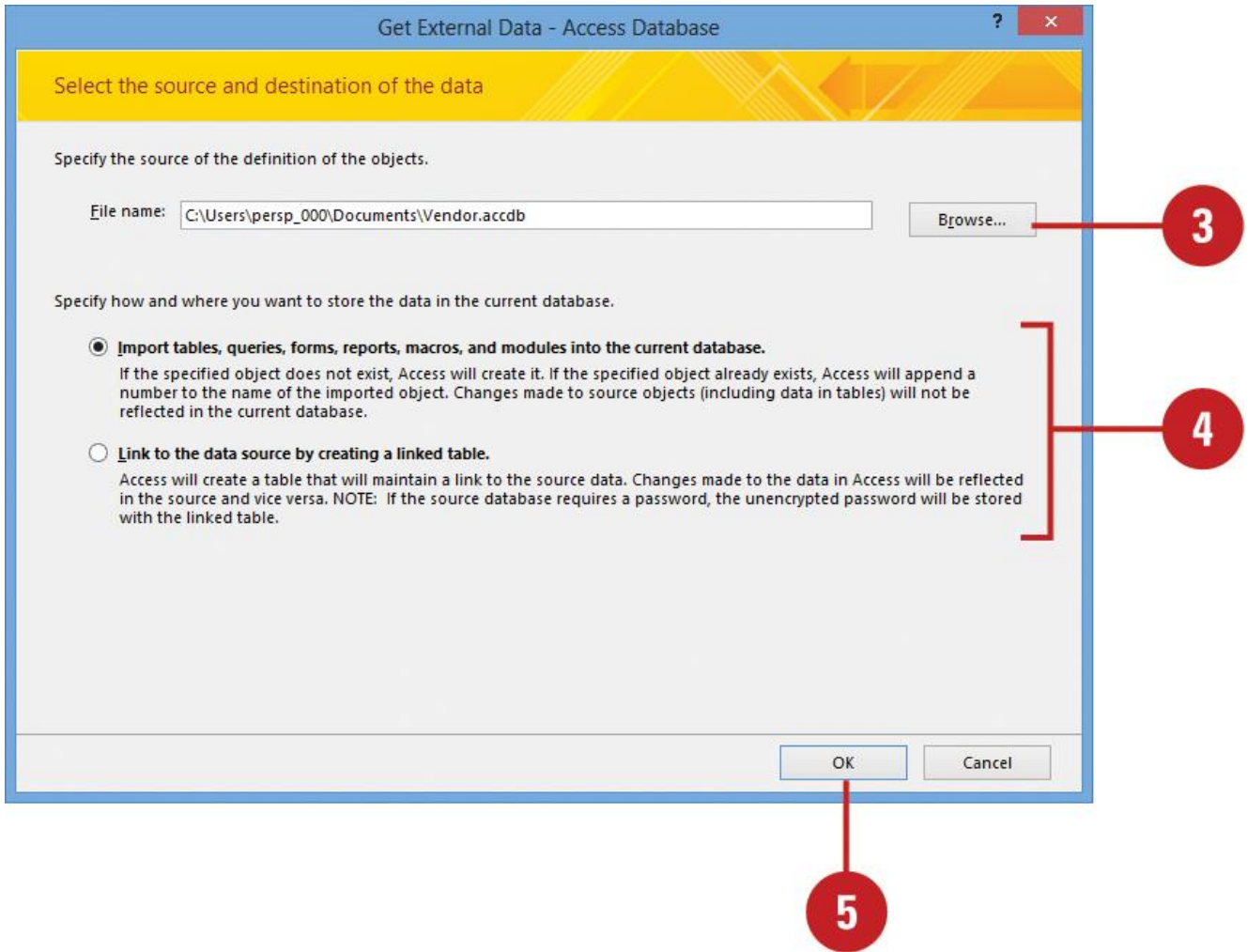


Figure 14. Import data from external

6. Click the tables to import. To deselect a table, click the table again
7. Click **Ok**.

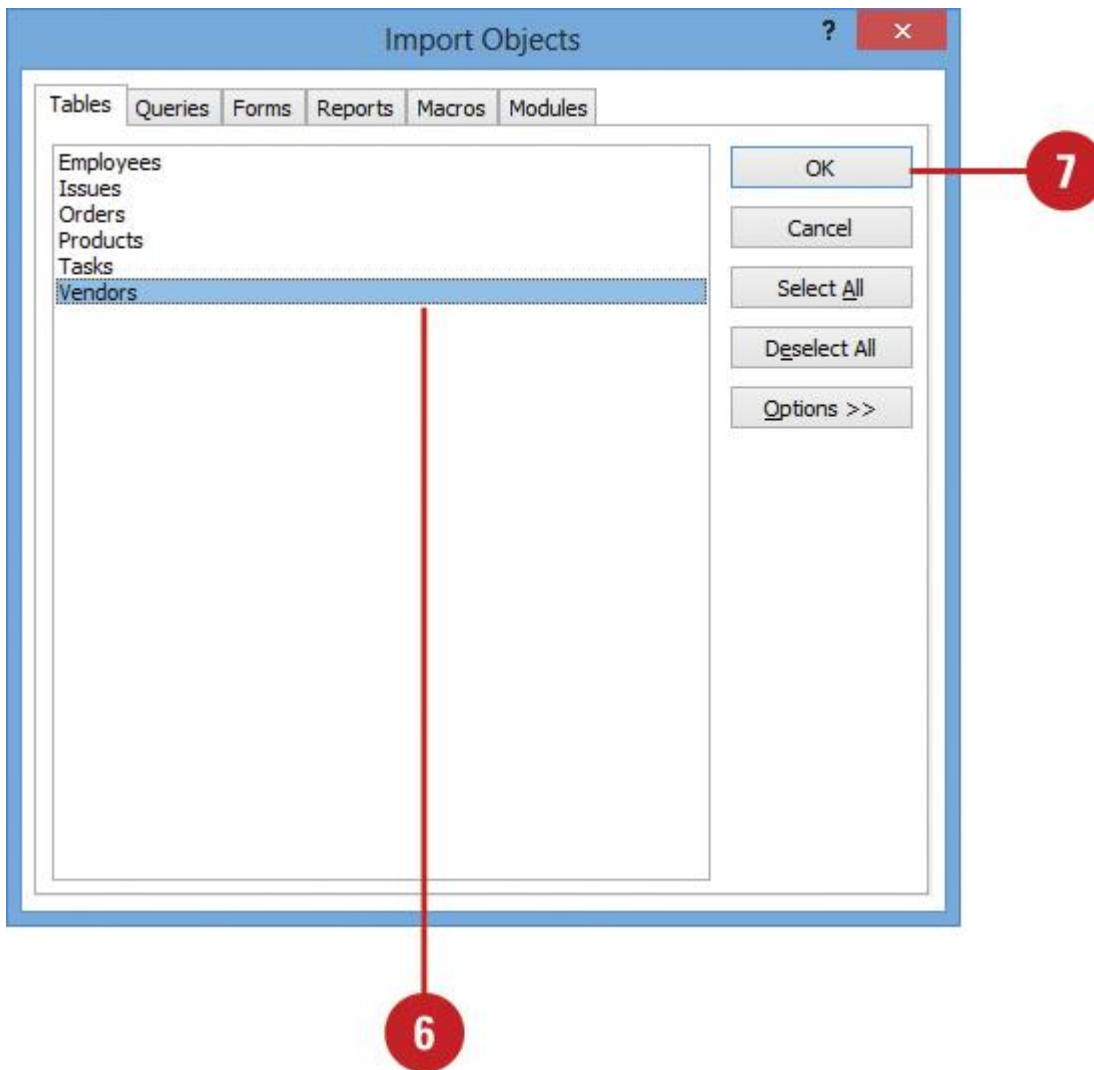


Figure 15. Select table for import data.

8. To save import steps, select the **Save import steps** checkbox, enter a name and description, and then click **Save Import**. Otherwise, click **Close**.

### 3.4.2 Linking to data in tables

We can create new tables from other Access database by importing and linking tables. When we link a table, the data stays in its original location, but we can display and access that data from within our database. If data in the original database changes, the changes will appear in our linked database, too. After select the table we want to link during the linking process, we have the option of saving the import steps for use again in the future.

#### Link to data from a database:

1. Click the **External Data** tab.
2. Click the **Import Access Database** button.
3. Click **Browse**, locate and select the database file that contains the data you want to import, and then click **Open**.
4. Click the **Link to the data source by creating a linked table** option.
5. Click **Ok**.

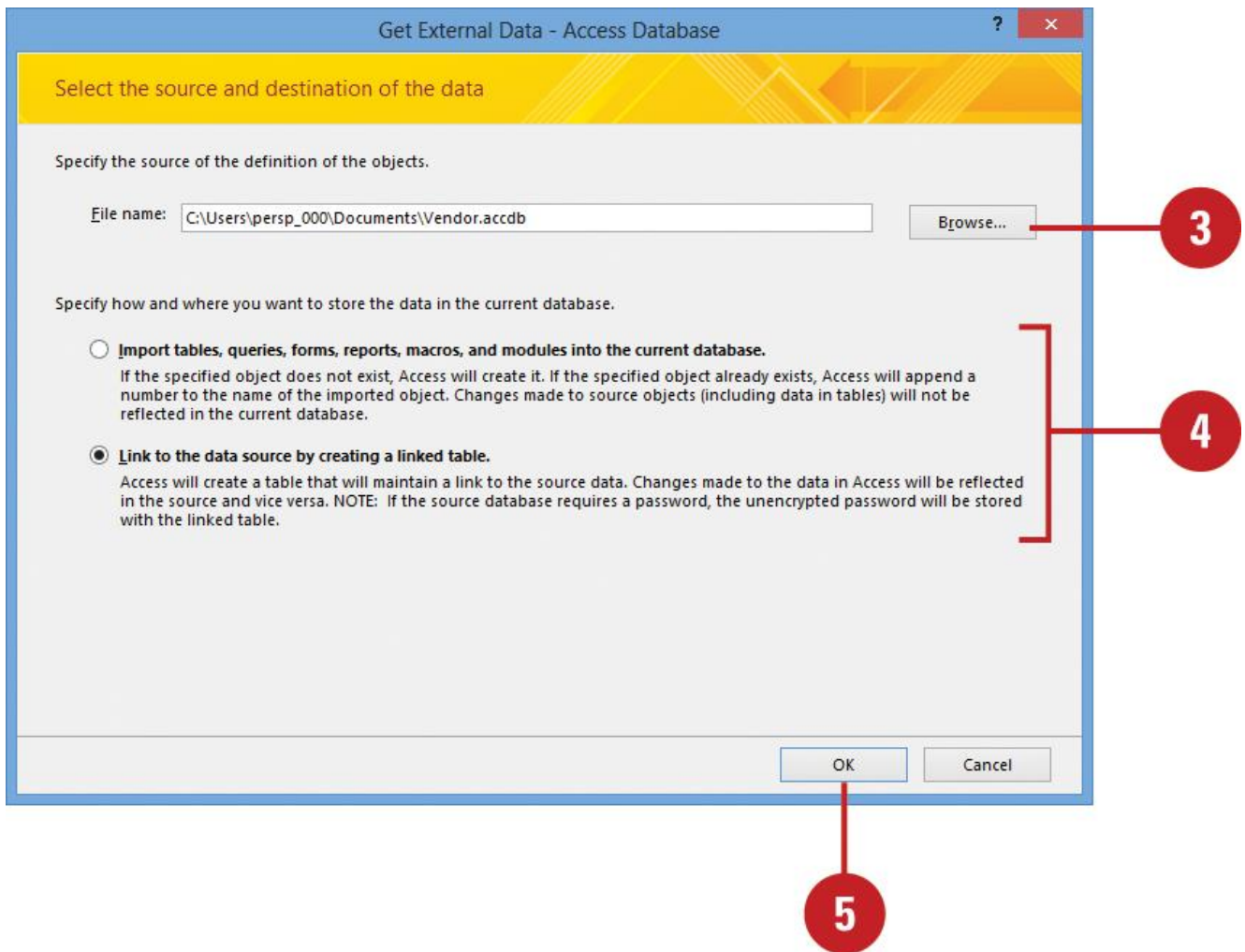


Figure 16. Link data from other database.

6. Click the tables want to import. To deselect a table, click the table again.
7. Click **OK**.
8. To save import steps, select the Save import steps check box, enter a name and description, and then click **Save Import**. Otherwise, click **Cancel**.

### 3.4.3 Export data from Access:

We can easily export data from access to wide variety of formats that are available. We can also export other database objects, like forms and reports.

1. To export data from Access, first select the table or other database object to export in the Navigation pane.
2. Click the “External Data” tab in the ribbon.
3. Click the button in the “Export” button group for the file format to which we want to export the object.
4. Doing this then opens the “Export” wizard for the type of export we want to perform.
5. The specific steps shown in each wizard will vary slightly, depending on the file type to which we are exporting. Most of the time, we must select a name and file location for the exported object. We also often need to set additional parameters for export routine.
6. We will also promoted to save our export routine, if desired.

## 3.5 Session 5: Create and navigate form, query and report

### 3.5.1 Create a form

Access makes it easy to create form from any table in database. Any form create from a table will let you view the data that's already in that table and add new data. Once we've created a form, we can modify it by adding additional fields and design controls like combo boxes.

1. In the navigation pane, select the table which want to use to create a form. We do not need to open the table.
2. Select the create tab, locate the forms group, and click the form command.

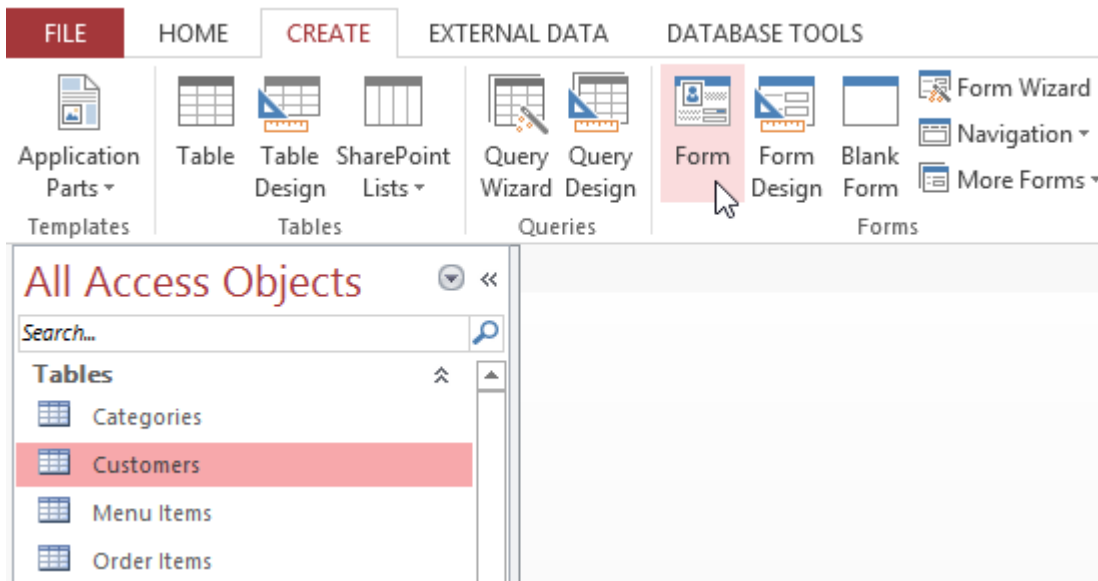


Figure 17. Create form

3. Form will be created and opened in layout view.



Customers1

## Customers

ID: 1

First Name: Tracey

Last Name: Beckham

Street Address: 7 East Walker Dr.

State: NC

Zip Code: 27612

ID	Paid	Pre Order	Notes
38	Yes	No	
(New)	No	No	

Figure 18. Form layout view

- To save the form, click the save command on the quick access toolbar. When prompted, type a name for the form, then click ok.

Save As

Form Name:  
Customers Form

OK Cancel

Figure 19. Form save option

### To add a field to a form:

- Select the design tab, then locate the tools group on the right side of the ribbon.
- Click the Add existing fields command.

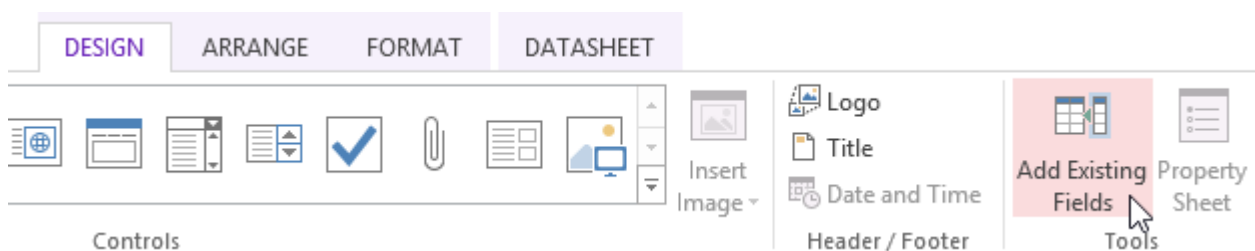


Figure 20. Add existing field in form

- The field list pane will appear. Double-click the desired field(s).

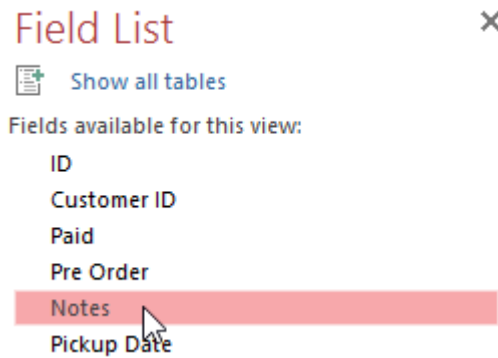


Figure 21. Add existing field in form

- The field will be added.

#### To create a combo box:

- In form layout view, select the design tab, then locate the controls group.
- Select the combo box which actually need.

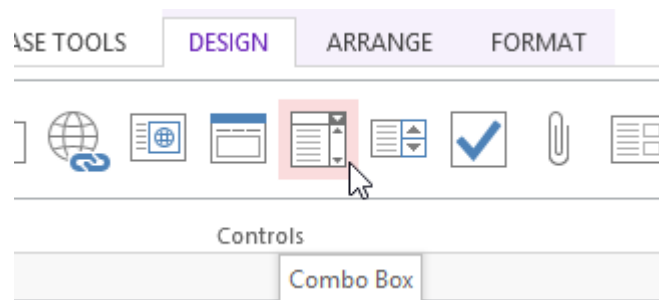


Figure 22. Select combo box

### 3.5.2 Create query

Now let's create a query that returns the names of all customers who have ordered a product

- Ensuring have the **create** tab open on the ribbon, click **Query Design**

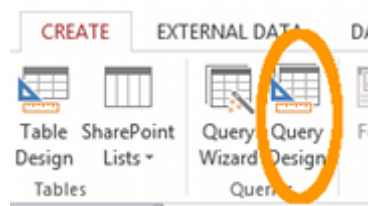


Figure 23. Select query design for create query

- The show table dialog box will appear with all of our tables listed. Select all three tables and click add, then click close.

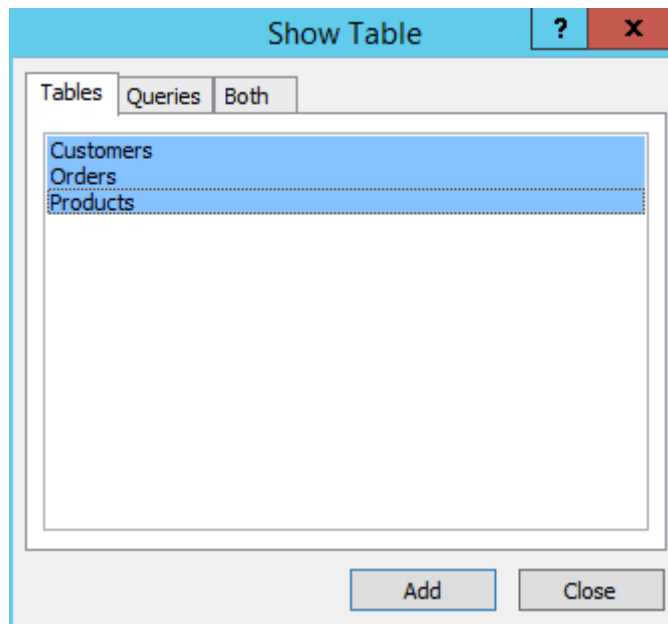


Figure 24. Select table for query

- The three tables are now represented in the top pane (beneath the ribbon). Choose the fields which like to be presented in the result of our query. We can either double click on the field name or click and drag it down to a column in the bottom pane. Select the fields as follows:

Query1

Field:	CustomerId	FirstName	LastName	ProductName	Price
Table:	Customers	Customers	Customers	Products	Products
Sort:					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:					
or:					

Figure 25. Select the field to show in query result

- Click the Run button at top-left part of the ribbon:

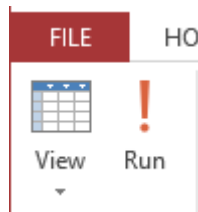


Figure 26. To start query

5. Now see the result of the query.

CustomerId	FirstName	LastName	ProductName	Price
1	Homer	Simpson	Venus Carrera ET	\$190,000.99
2	Peter	Griffin	Mars Dreamliner 787	\$82,000.00
10	Bender	Rodríguez	Mercury Riser 2020	\$55,000.00
10	Bender	Rodríguez	Pluto Mini Racer	\$25,000.00
3	Stewie	Griffin	Mars Daytripper	\$35,000.00
4	Brian	Griffin	Venus Carrera ET	\$190,000.99
5	Cosmo	Kramer	Mercury Riser 2020	\$55,000.00
6	Philip	Fry	Saturn SUV	\$65,750.00
7	Amy	Wong	Pluto Mini Racer	\$25,000.00
8	Hubert J.	Farnsworth	Mars Dreamliner 787	\$82,000.00
1	Homer	Simpson	Saturn SUV	\$65,750.00
6	Philip	Fry	Venus Carrera ET	\$190,000.99
*	(New)			

Figure 27. Result of the query

6. Save the query by right-clicking on the query tab and giving it any suitable name.

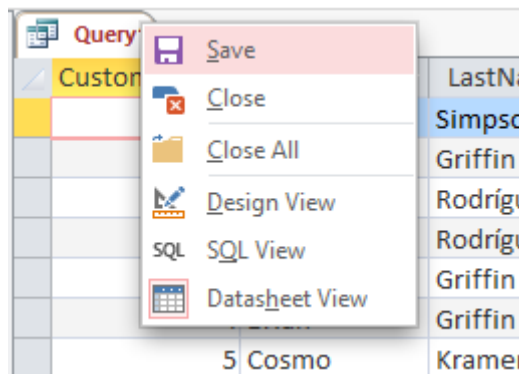


Figure 28. Save the query

### 3.5.3 Create report

Reports organize and summarize data for viewing online or for printing. A detail report displays all of the selected records. We can include summary data such as totals, counts, and percentage in a details report. A summary report does not list the selected records but instead summarizes the data and presents totals, counts, percentages, or other summary data only. Access have several report generation tools that we can use to create both detail and summary report quickly. This session teaches us how to create reports.

To use the report button:

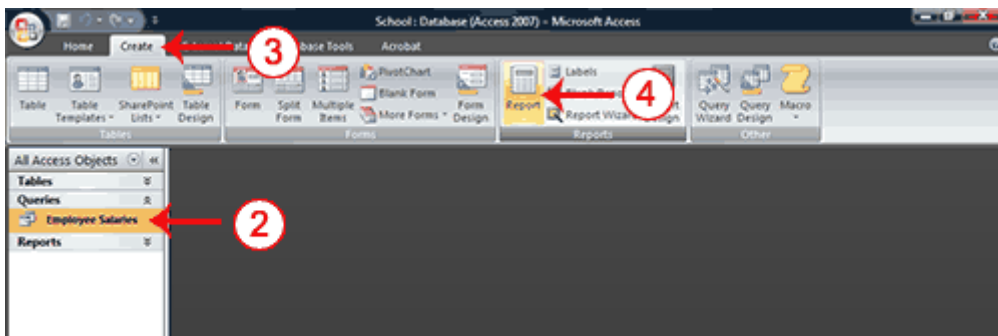


Figure 29. Create a report

1. Open the Navigation pane.
2. Click the table or query on which you want to base your report.
3. Active the create tab.
4. Click the report button in the reports group. Access creates your report and displays your report in layout view. No you can modify report.

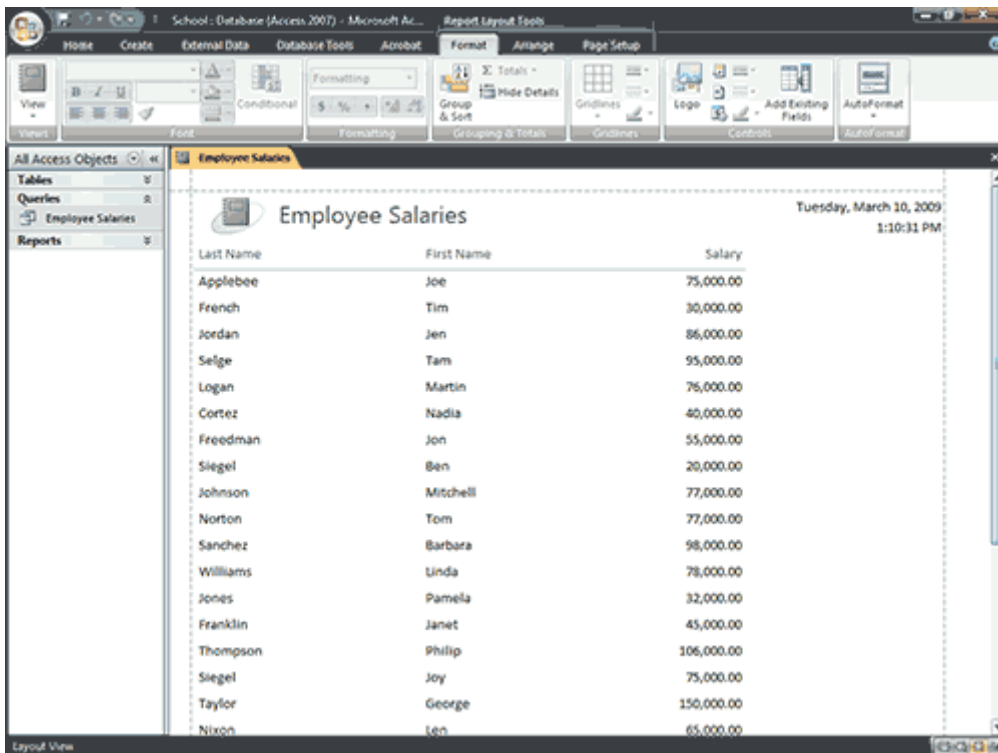


Figure 30. Simple report view

5. Click the save button on the quick access toolbar. Access saves the report unless you are saving for the first time, the save as dialog box appears.
6. Type the name you want to give your report.
7. Click ok.

**Section of a report:**

1. Report Header: appears at top of the first page and displays the report title.
2. Page Header: Appears at the top of every page and displays the headings (field labels) for each column.
3. Page Footer: Appears at the bottom of every page and displays the page number and total number of pages.

4. Details Section: Appears between the page header and page footer and displays the records from the table or query.
5. Report Footer: This section is optional. Appears on the last page of the report and displays summary information such as grand totals.

Employee Salaries			Tuesday, March 10, 2009 1:10:31 PM
Last Name	First Name	Salary	
Applebee	Joe	75,000.00	
French	Tim	30,000.00	
Jordan	Siegel	Ben	20,000.00
Selge	Johnson	Mitchell	77,000.00
Logan	Norton	Tom	77,000.00
Cortez	Sanchez	Barbara	98,000.00
Freedman	Williams	Linda	78,000.00
Siegel	Jones	Pamela	32,000.00
Johnson	Franklin	Janet	45,000.00
Norton	Thompson	Philip	106,000.00
Sanchez	Siegel	Joy	75,000.00
Williams	Taylor	George	150,000.00
Jones	Nixon	Len	65,000.00
Franklin	Cortez	Alice	32,000.00
Thompson	Hope	Mark	98,000.00
Siegel	Lights	Barry	102,000.00
Taylor	Mack	Jordan	124,000.00
Nixon	Franklin	Britney	103,000.00
	Caitlin	Sheryl	111,000.00
	John	Franklin	42,000.00
		25	

Figure 31. Section of report view

To create a report by using the Report Wizard:

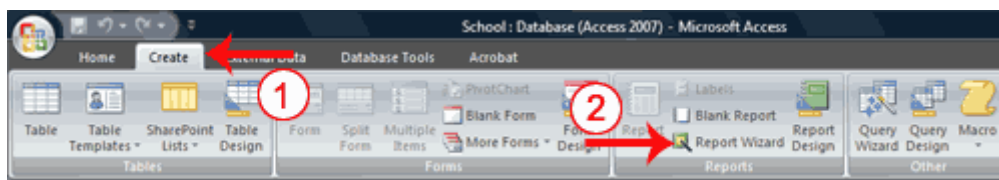


Figure 32. Open the report wizard

1. Active the create tab.
2. Click report wizard in the reports group. The report wizard appears.

Select tables, queries and fields

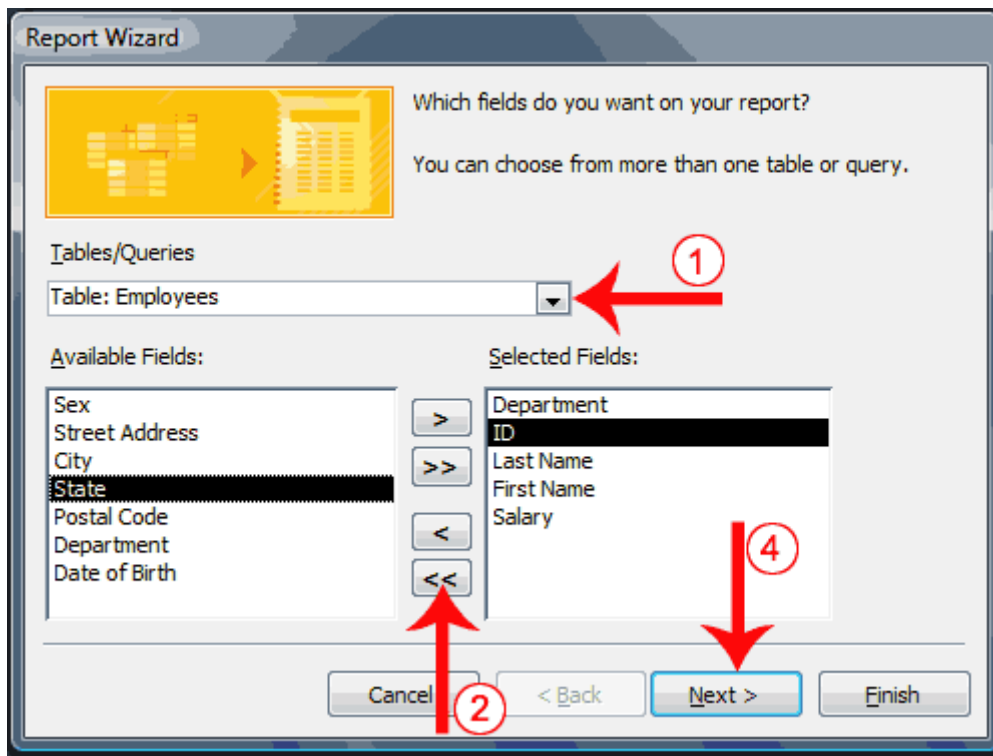


Figure 33. Select the table, queries, and fields

1. Click the down-arrow next to the table/Queries field and then click the table from which you want to select fields.
2. Click a field and then click the single-right arrow to select a single field, click the double-right arrows to select all fields, click a field and then click the single-left arrow to deselect a single field, or click the double-left arrow to deselect all fields.
3. Repeat steps 1 and 2 for each table from which you want to select fields.
4. Click next.

### Group data

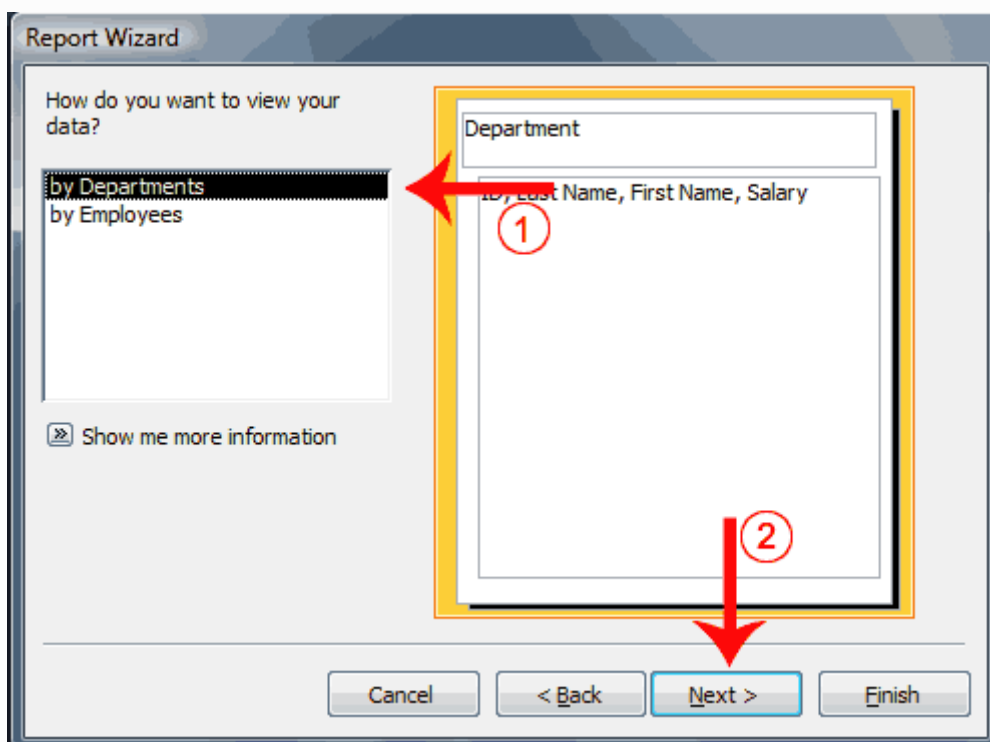


Figure 34. Select group or view data in report



1. Click to select the field by which you want to group your data. You may not see this page of the wizard if you are selecting data from a single table.
2. Click next.

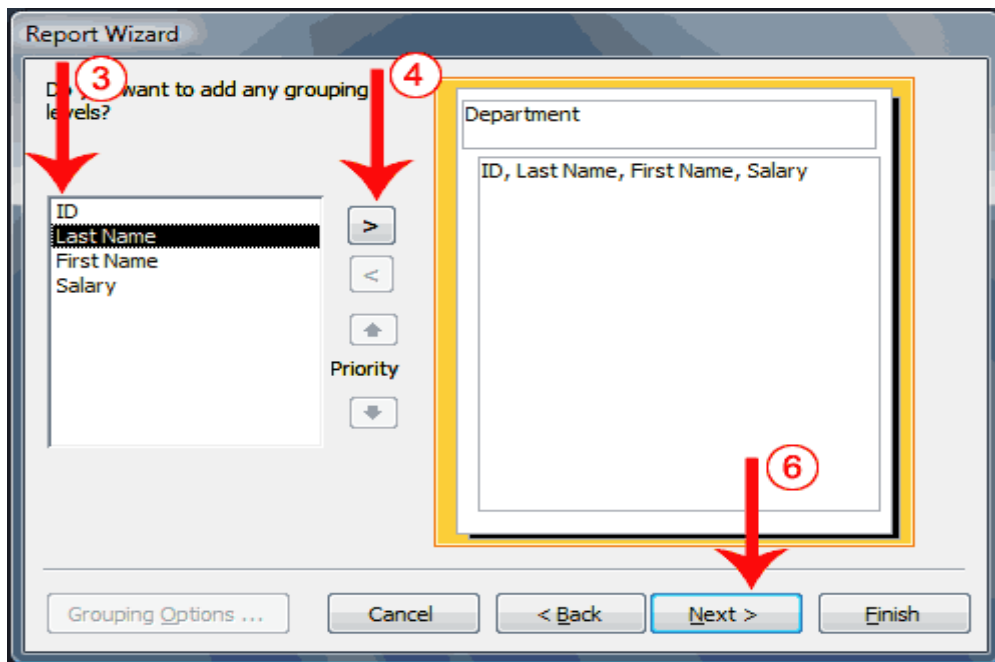


Figure 35. Select group or view data in report

3. Click a field you want to group by.
4. Click the right-arrow to select a field; click a field and then click the left arrow to deselect a field. Use the up- and down-arrows to change the order of the groupings. If you are only using one table, this may be your first opportunity to select a field to group by.
5. Repeat steps 3 and 4 for each field you want to group by.
6. Click next.

### Sort and summarize

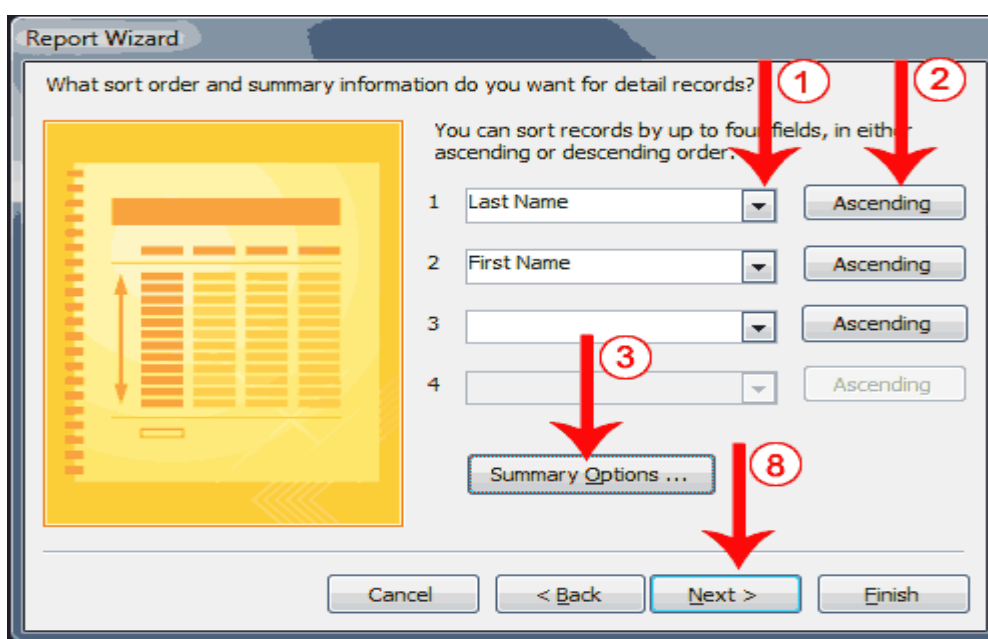


Figure 36. Sort and summarize report format

1. Click the down-arrow and then select the field you want to sort by.
2. Click the button to choose ascending or descending order. Clicking the button toggles between Ascending and Descending. You can sort up to four levels.
3. Click the Summary Options button. The Summary Options window appears

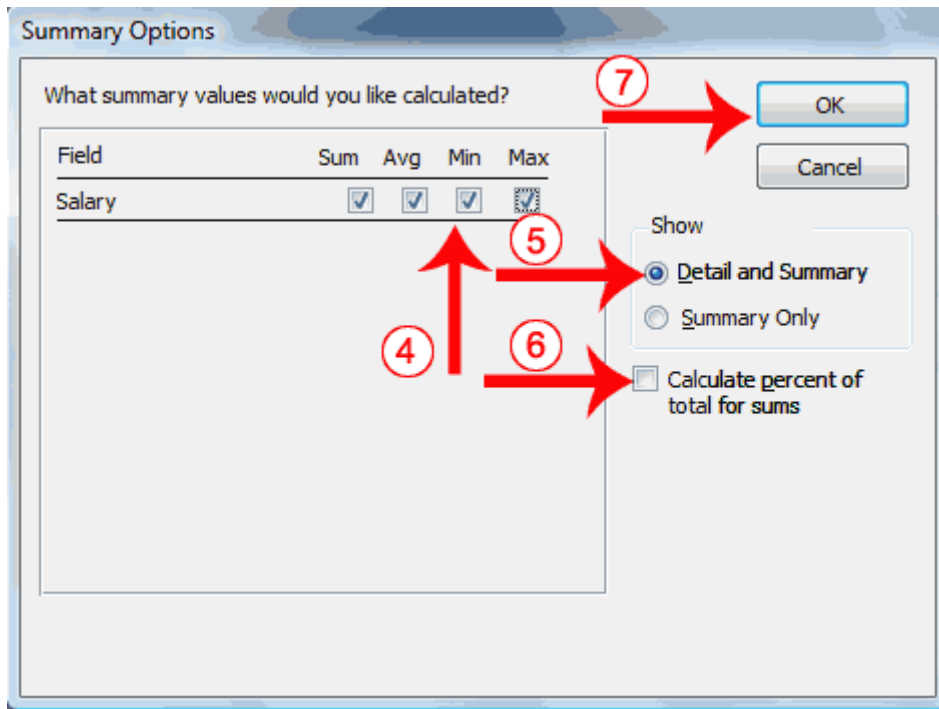


Figure 37. Select summary option

4. Click to select the summary data you want.
5. Click to select whether you want detail and summary data or if you want summary data only.
6. Click if you want to calculate the percent to the total for sums.
7. Click ok. The summary options window closes.
8. Click next.

### Layout and orientation

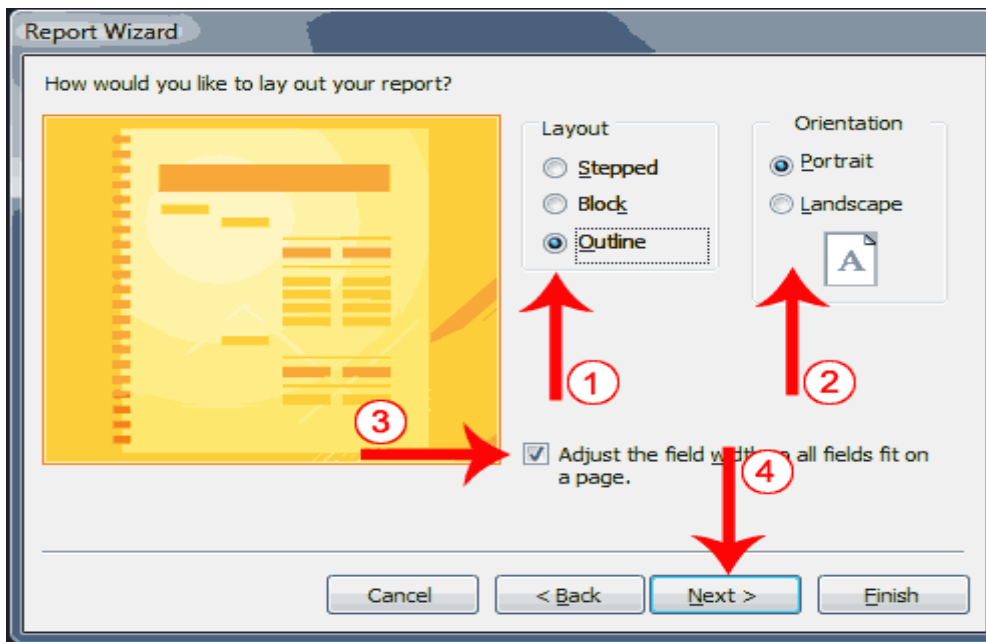


Figure 38. Layout and orientation format for report view

1. Click to select a layout.
2. Click to select a page orientation.
3. Choose the adjust the field width so all fields fit on a page option if you want all fields to fit on a single page.
4. Click next.

### Style

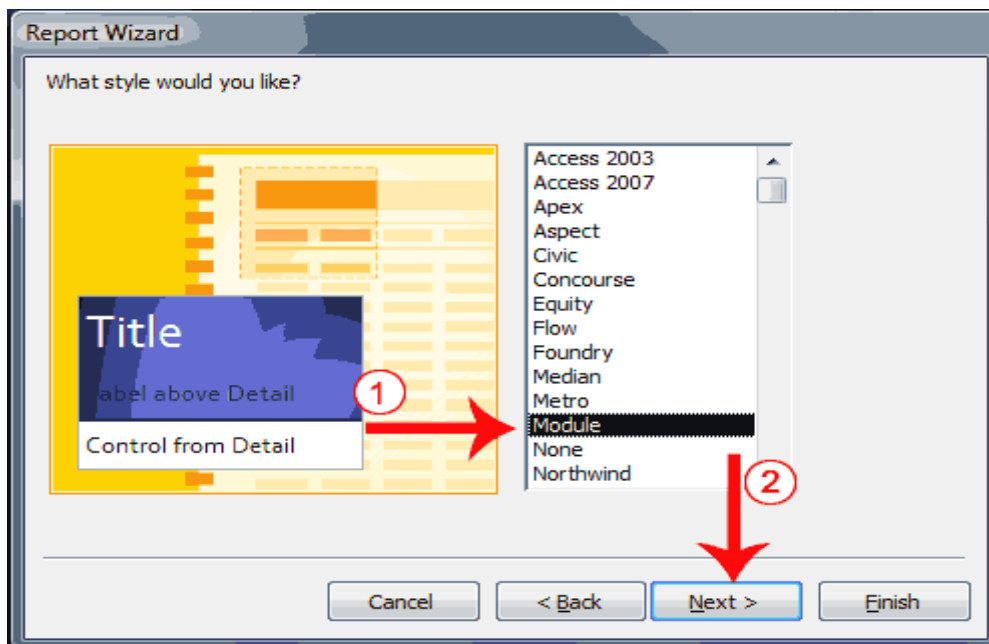


Figure 39. Style format for report view

1. Click to select a style.
2. Click next.

### Create a title

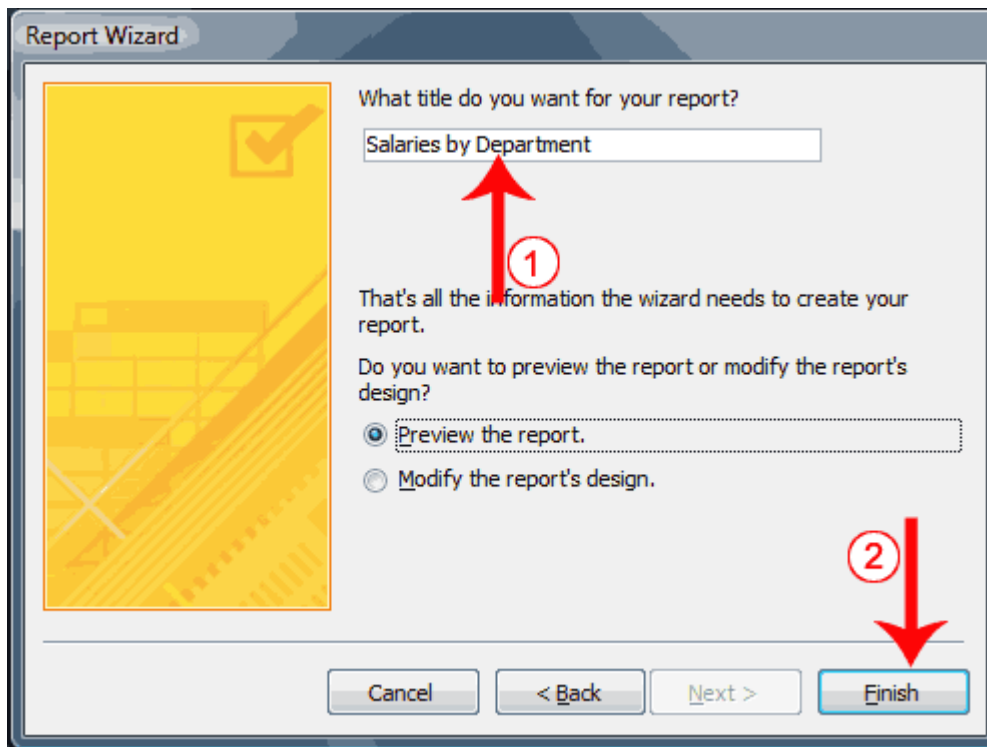


Figure 40. Create title for report

1. Type the title you want to give the report.
2. Click finish. Access creates, saves, and opens your report in layout view.

Salaries by Department				
Department	Administration ← <b>Group Header</b>			
Last Name	First Name	ID	Salary	
Applebee	Joe	1	75,000.00	
Cortez	Alice	20	32,000.00	
Cortez	Nadia	7	40,000.00	
French	Tim	2	30,000.00	
Siegel	Ben	9	20,000.00	
Taylor	George	18	150,000.00	
Summary for "Department ID" = 1 (6 detail records)				
Sum				347,000.00
Avg				57,833.33
Min				20,000.00
Max				150,000.00 ← <b>Group Footer</b>
Department	Computer Science			
Last Name	First Name	ID	Salary	
Sanchez	Barbara	12	98,000.00	
Selge	Tam	5	95,000.00	

Figure 41. Report view

### 3.6 Session 6: Learn how to manage database

Access 2013 makes managing your data easy, combining a visual interface with the power of a relational database. Discover how to organize data into tables, design forms and reports for editing and presenting information, and create queries for selecting and combining information.

There are some tips to manage access database

#### Compacting and repairing a database

1. Compacting a database rearrange the data and object in a database to decrease its file size.

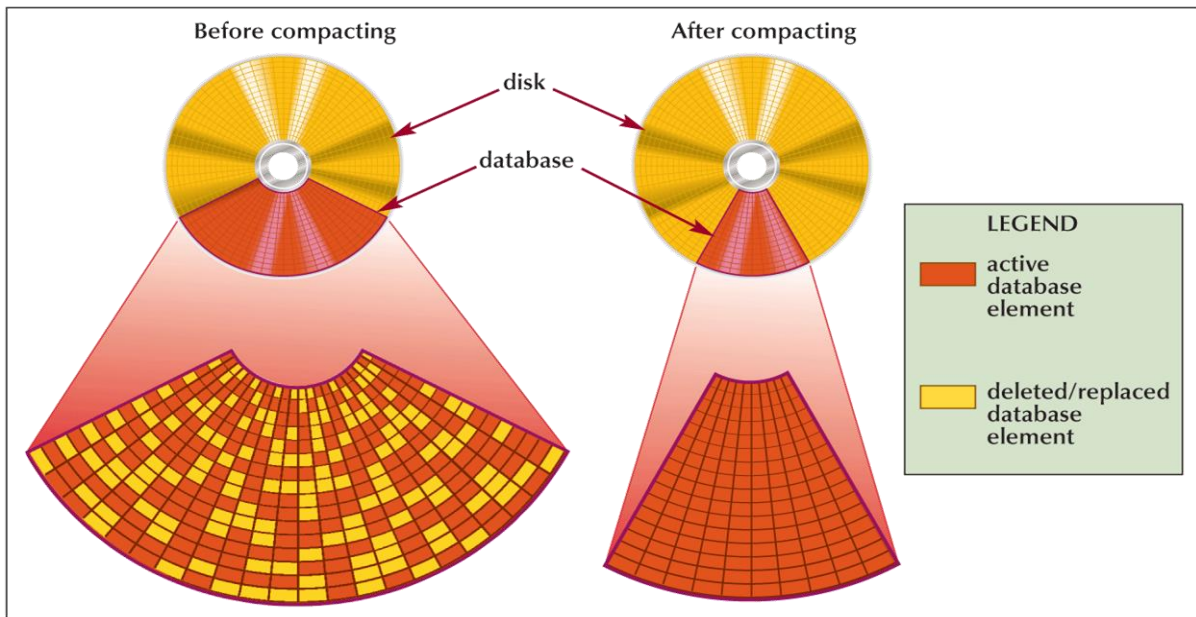


Figure 42. Access database disk storage

2. Make sure the database file you want to compact and repair is open.
3. Click the office button, point to manage, and then click compact and repair database.

#### Backing up and restoring a database

1. Backing up a database is the process of making a copy of the database file to protect your database against loss or damage.
2. The back-up database command enables you to back-up your database file from within the access program, while you are working on your database.
3. To restore a backup database file, you simply copy the backup from the drive on which it is stored to your hard drive or anywhere.

#### Tips

1. Always make a list of the possible fields, including text, numeric, data, true/false, and other type of data.
2. Eliminate redundant data.
3. Organize the field into tables.
4. Add tables for codes and abbreviations.
5. Choose a primary key for each table.
6. Link the table.
7. Store information where it belongs, not where it appears.

8. Avoid garbage in.
9. Separate your data from your programs.
10. Back-up early and often.

### 3.7 Session 7: Exercise with tree species database

We are using tree species database for exercise. Here is the relation of tree species database:

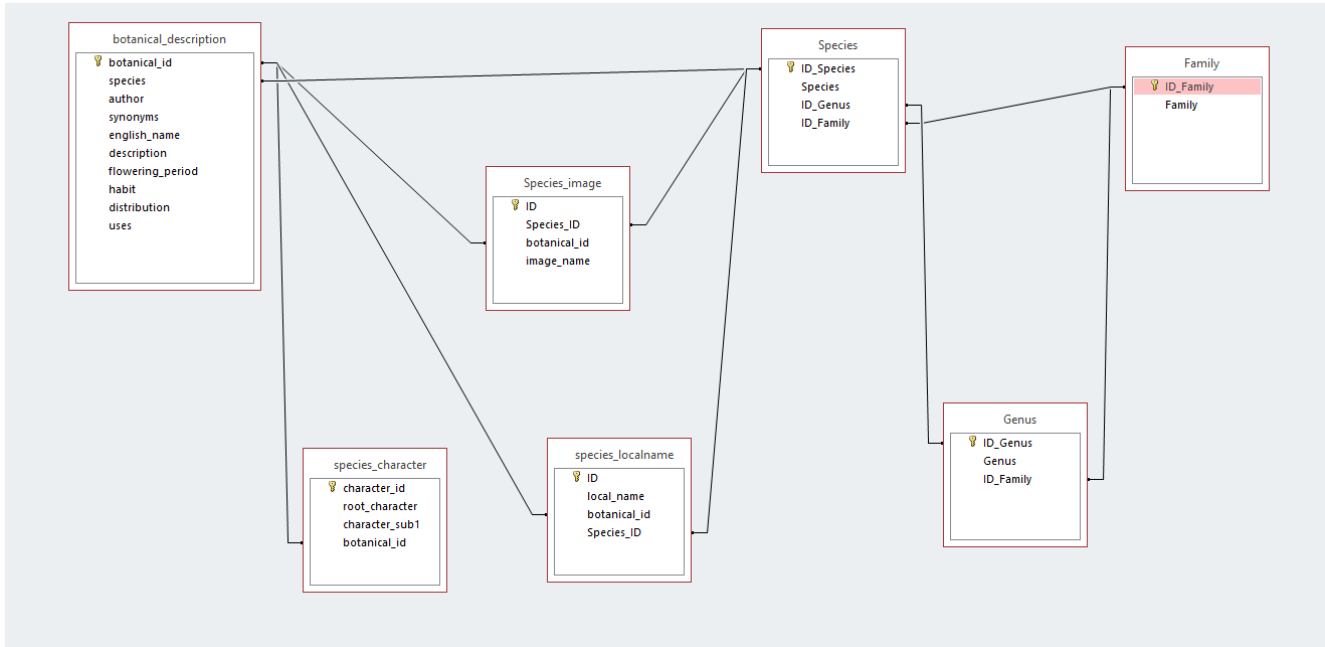


Figure 43. Relation of tree species database

## 4. RECOMMENDATIONS FOR NEXT STEPS

Data management system is important to ensure keep your data organized wise and safely. Data are increasing day to day life so, MS Access is easier to use and easier to calculated excretion, easier to organized data, and also security than MS Excel. Based on this discussion with participants, it appeared that it would be useful to provide the manual of MS Access. This indicates that participants found the training useful for their relevant work. Need a follow-up training for follow-up participants about MS Access usage.

## APPENDIX 1. AGENDA

Dates and venue: 23<sup>rd</sup> – 25<sup>th</sup> April 2018 at BBS in Dhaka

<b>Day-1</b>	
09.00 – 10.20	Initial Assessment: <ul style="list-style-type: none"> <li>• Basic concept of Database</li> <li>• Creating Database in MS Access</li> <li>• Identify the Components of MS Access window</li> </ul>
<b>10:20– 10:40</b>	<b>Tea break</b>
10:40– 12:10	<ul style="list-style-type: none"> <li>• Define Relational Database</li> <li>• Define the terms field, record, table, primary key, and foreign key</li> </ul>
12:10 – 13.00	<ul style="list-style-type: none"> <li>• Create and save a table in Datasheet view and SQL</li> </ul>
<b>13.00 – 14.00</b>	<b>Lunch</b>
14.00 – 15.00	<ul style="list-style-type: none"> <li>• Relationship between multiple table</li> <li>• One-To-One Relationship</li> <li>• One-To-Many Relationship</li> <li>• Many-To-Many Relationship</li> </ul>
15.00 – 16. 00	<ul style="list-style-type: none"> <li>• Entry New record in table by form</li> <li>• Open Table using the Navigation pane</li> </ul>
<b>16.00 – 16.15</b>	<b>Tea break</b>
<b>16.15 – 17.00</b>	<b>Exercise 1</b>  <b>Review of the day</b>
<b>Day-2</b>	
09.00 - 10.20	<ul style="list-style-type: none"> <li>• Export/Import records and tables from another Access database</li> <li>• Export/Import data from excel file</li> <li>• Navigate a table datasheet</li> </ul>
<b>10.20 -10.40</b>	<b>Tea break</b>
10.40 – 12.00	<ul style="list-style-type: none"> <li>• Create and navigate a simple form</li> <li>• Create, preview, and navigate a simple form.</li> </ul>
12.00 -13.00	<ul style="list-style-type: none"> <li>• Grouping Data</li> <li>• Summarizing Data</li> </ul>
13.00 -14.00	<b>Lunch</b>
<b>14.00 – 15.00</b>	<ul style="list-style-type: none"> <li>• Create and navigate simple query</li> <li>• Calculated Expression</li> </ul>
<b>15.00 – 16.00</b>	<b><u>Exercise-2</u></b>
<b>16.00 – 16.15</b>	<b>Tea break</b>



16.15 – 17.00	<b>Review of the day</b>
<b>Day-3</b>	
09.00 - 10.20	<ul style="list-style-type: none"> <li>• Graphical user interface- forms/report live.</li> </ul>
10.20 – 10.40	<b>Tea break</b>
10.40 – 13.00	<ul style="list-style-type: none"> <li>• Creating a Simple Report</li> <li>• Printing a Report</li> <li>• Learn how to manage a database by compacting, backup, and restoring a database.</li> </ul>
13.00 – 14.00	<b>Lunch</b>
14.00 – 15.00	<b>Exercise-3</b>
15.00-17.00	<b>Exam</b>  <b>Review of the day, short/instant evaluation, Tea/Coffee</b>

## APPENDIX 2. PARTICIPANT LIST

Name	Organisation	Gender	Designation	Phone no.	e-mail
Dr. Mohammad Zahirul Haque	BFD	M	ACCF	01747767651	zahirfd@yahoo.co.uk
Rokeya Begum	BFD	F	ACF(Monitoring unit)	01715862576	rupu_zaman@yahoo.com
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Mohsina Begum	BFD	F	ACF(Management plan unit)	01760819900	mohsinabegum1234@yahoo.com
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Anatoli poultouchidou	FAO	F			Anatoli.Poultouchidou@fao.org
Md. Ikbal Faruk	FAO	M		01715150289	md.faruk@fao.com
Md. Saedur Rahman	FAO	M		01775549091	mdsaedur.rahman@fao.com

## APPENDIX 3. EVALUATION

Male	6	50%
Female	4	33%
How often do you participate in training related to forest monitoring?		
First time	10	83%
1-3 every year	0	0%
More than 3 per year	0	0%
Regularly (approximately one per month)	0	0%
I would describe myself as?		
A professor/academic	0	0%
A student	0	0%
Forest Department staff	9	75%
Government staff (outside Forest Department)	0	0%
NGO staff	0	0%
Private consultant	1	8%
Other	0	0%
		0%
My professional background relates most closely to:		
	TRUE	
Forester	5	42%
GIS/RS	1	8%
Statistics	1	8%
Social survey/assessment	1	8%
Economics	0	0%
Natural Resource Management	1	8%
Ecology	2	17%
other	4	33%
My years of relevant experience is:		
1-2 years	0	0%
3-5 years	1	8%
5-7 years	2	17%
8-10 years	0	0%
More than 10 years	7	58%

The training was relevant to my daily work		
Strongly agree	3	25%
Agree	6	50%
Neutral	1	8%
Disagree	0	0%
Strongly disagree	0	0%
I had enough previous knowledge to understand the content of the event		
Strongly agree	0	0%
Agree	5	42%
Neutral	5	42%
Disagree	0	0%
Strongly disagree	0	0%
The training met my expectations in terms of the content and learning outcomes		
Strongly agree	6	50%
Agree	2	17%
Neutral	2	17%
Disagree	0	0%
Strongly disagree	0	0%
The learning resources provided were adequate and useful		
Strongly agree	6	50%
Agree	1	8%
Neutral	3	25%
Disagree	0	0%
Strongly disagree	0	0%
The resource person presented information in a way that i could understand and was easy to follow		
Strongly agree	5	42%
Agree	5	42%
Neutral	0	0%
Disagree	0	0%
Strongly disagree	0	0%
I feel confident to be able to carry out the tasks described in the training without supervision.		
Strongly agree	1	8%
Agree	5	42%
Neutral	4	33%

Disagree	0	0%
Strongly disagree	0	0%
I was pleased with the venue/meeting room/snacks etc		
Strongly agree	5	42%
Agree	4	33%
Neutral	1	8%
Disagree	0	0%
Strongly disagree	0	0%
Are there other people/agencies/organizations that you think should have been included in the training?		
Computer related persons in Forest Department		
The related person those are working as computer operator at FD should include the training program.		
Any other comments?		
Overall the training will be helpful for database management.		
This training will be helpful.		
I would like to easy to way learn MS Access to my professional.		
i would like to more easy way to learn MS Accesses to my professional.		
Should be more longer period for training (At least 5 days)		