WAYNE STATE UNIVERSITY
HUMAN RESOURCES

INTRODUCTION TO ACCESS 2010
BLENDED LEARNING PROGRAM

Participant Guide

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Course Overview

This course is designed for users with little or no experience in creating databases. Introductory concepts for creating and managing a simple database structure are addressed. Participants will learn skills through instructor facilitated demonstrations and eLearning provided by Accelerate Employee Development Tools (AEDT). Participants will apply their skills by creating a basic database with relational tables, select queries for sorting data, a basic form for collecting data and basic reports for exporting and presenting data.

It's important to point out that this learning program utilizes a blended learning approach. This participant guide is designed to guide you through key concepts to develop basic database skills. It not all inclusive manual since skills and understanding are further facilitated by the activities led by the instructor and eLearning. You will be building a database from scratch and continue to build upon that database using activities from the previous instructor-led sessions. For the best learning experience, participants should expect to attend all leader-led sessions, review the guide throughout the program and complete eLearning requirements as assigned.

Prerequisites

General computer knowledge including keyboarding skills, using the mouse, surfing the web, saving and retrieving files and navigating Microsoft Windows. General working knowledge of the MS Office environment (ribbon, menu bars, dialog boxes, etc.) is also helpful.

Recommended Resources

There are several eLearning resources available through Accelerate Employee Development Tools (AEDT) to supplement this course. The recommended eLearning resources listed below are not required for this course but are helpful references you can refer to as needed.

- Access 2010 Bible (book)
- Access 2010 24-Hour Trainer (book)
- Microsoft Access Data Types (job aid)
- Controls in Access Forms (job aid)
- Create Validation Rules (video)
- Create a Find Duplicates Query (video)
- Create and Modify a Select Query (video)
- Create a Find Duplicates Query (video)

Course Structure

This course is designed to provide participants with a blended learning experience to include both instructor-led and eLearning activities.

Instructor-led sessions will consist of discussions and hands-on activities facilitated by an instructor. Participants will observe demonstrations and review examples. Participants are encouraged to ask questions and partake in hands-on activities. All instructor-led sessions are held in the computer lab located at 5700 Cass Avenue (1700 A/AB) unless otherwise instructed.

eLearning sessions will consist of reviewing and/or completing electronic learning resources provided by Accelerate Employee Development Tools unless otherwise instructed. eLearning assignments may include passing assessments or simply reviewing content (video, skillbrief, job aid, etc.). All eLearning assignments are expected to be completed outside of instructor-led sessions.

Notes about eLearning

Most courses have a pre and posttest that must be completed. These tests may be repeated as much as needed and the system will record the last grade earned. Grades/Completions may be forwarded to your manager upon request.

The eLearning courses may be repeated as often as needed for a refresher and need not to be completed in one sitting; however, you should avoid closing the course window by clicking the red  and use the course's  button to close the course. Using the  button will ensure the system saves your progress and you can begin where you left off when you exited the course.

Technical Assistance

For Accelerate Employee Development Tools logon issues please contact your instructor. For computer issues please contact your local IT (http://computing.wayne.edu/help/faculty-staff.php). You may wish to test your browser for eLearning readiness by visiting http://browser.skillport.com/

Getting Started

Welcome to the *Microsoft Access 2010 Blended Learning Program*. Microsoft Access is the world's premier database software. You can use Access to create and edit databases. Some examples include (but are not limited to) a database of contacts, expenses, household and/or business inventory. If you have data, you can create a database of that data using Access.

Learning Objectives

This learning program is designed to provide participants with basic Access concepts through instructor-led and eLearning activities. By the end of this learning program you should be able to:

- Determine when to use Excel or Access by identifying key characteristics in a dataset
- Compare illustrations to understand an Access database structure
- Plan a database structure by analyzing data for specific units of information
- Understand common database terms by successfully
- Successfully open, save and close an Access database
- Use the Access 2010 interface to manipulate database objects as needed
- Create a table for each unit of information
- Understand data types and input masks by reviewing and applying them to a table
- Troubleshoot issues using the Access Help feature
- Import external data using an existing Excel spreadsheet
- Set primary keys by identifying unique fields and data
- Establish table relationships using the Lookup Wizard
- Use a set a table, form or query object to add, edit, delete and search for records
- Create Form using the Form Wizard
- Understand commonly used control types by applying controls to an existing Form
- Format Forms by applying Themes and inserting a logo
- Create a Query using the Query Wizard
- Filter records in a Query by specifying criteria and setting parameters
- Run a Query using various executing options
- Create a Report using the Report wizard
- Run a report using an existing database object
- Create report labels from a database object for correspondence
- Format Reports by applying Themes and inserting a logo
- Print a database object using Access Backstage
- Email a database object using Access Backstage
- Back up the database using Access Backstage
- Successfully build a database from scratch
- Successfully complete all eLearning courses as assigned

Planning a Database

In just about any event, taking the time to plan is extremely helpful and prevents you from wasting time and going back to fix things later. As your database grows you will be able to better manage it assuming it was clearly constructed from the beginning. When you make changes to your database structure after it already contains hundreds of records you could inadvertently create orphaned records and unorganized data.

Why not Excel?

Excel is powerful but it's not a database management system. It's meant to store units of information or unrelated lists. For example, if you want to store your customer's information and all the orders they placed you would most likely want the customer's first and last name, address, city, state and zip, telephone number, email address, in addition to what item they ordered which you would then need the order date, item number, description, how many were ordered and when it was shipped. You could create more than one spreadsheet but you would have challenges trying to bring that data back together again for a report or merely to sort.

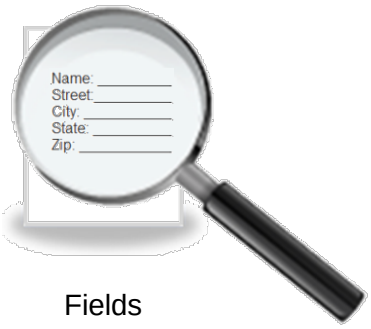
If you're attempting to use multiple tables in Excel with related information and want to sort the data or run sophisticated calculations with only the information you want it starts to get complicated. Excel simply doesn't save the sorting options very well or generate reports like Access can. There are more reasons but perhaps the key factor in determining whether to use Excel or Access is to ask yourself if the data is relational or not. If you were to store all the data on *one* table or one worksheet (referred to as a flat data set) does it still make sense? Is it easy to sort? Are you entering the same data more than once? In the example mentioned above, you would ideally have two related tables: a table for Customers and a table for Orders.

Database Structure

When it comes to databases, it's helpful to consider how a physical database is created to understand how an online database in Access is created.

Access 2010 Software

Table(s)



Fields

Record(s)

Planning your database

When planning your database start with the purpose of the database. Think about what kind of reports and sorting options you would like to generate. For example, you might want to be able to run a report that shows a list of your customers in the Detroit area who spent over $500 in the last month so you can send them a coupon.

Make a list of all the data you want to be able to use and what's required to generate the results you want. Using the above example, you would want details such as customer name, address, order dates and order amounts, product lists, etc. This will give you some idea of how robust your database should be.

Sort the list into units of data (customers, orders, products, etc.). Each unit should only be about one topic. This will tell you how many folders (tables) are needed and how to label them.

Once you have units of information, break down the information as much as possible (i.e. separating first and last name, etc.). This will help identify the needed data (fields) and ensure that your tables are only about one topic. It will also make complex sorting much easier later.

When you break down information it becomes much easier to sort and specify information for a report later. If you're not sure how much to break it down consider how the data is going to be used.

The image below is an example of a poorly designed table containing a list of customers (one unit of information). Because the information isn't broken down as much as possible, there isn't a way to sort the contacts by last name, by city or by state (fields). It is also more difficult to identify duplicate contacts (records) especially when you are viewing hundreds of contacts at a time or if you have multiple users entering data.

NAME	ADDRESS
Jean, Brown	123 Maplewood, Detroit, MI 48202
Marley, Gail	456 Ole Lyme, Fishers, IN 46219
Smith, Dave	555 Breezy Lane, Pittsburgh, PA 15209
Wilcox, Luke	159 Rice Ave, Berkley, MI 48404
Smith, Eddie	357 Garden, New York, NY 10010
Hailey, Wendy	321 Main Street, Jersey City, NJ 17310
Marley, Gail	456 Ole Lyme, Bethany, CT 16447
Smith, Dave	789 Krammer Ct, Pittsburgh, PA 15206

The image below is the same list of customers in a well-designed table that can be sorted more easily.

LAST	FIRST	ADDRESS	CITY	STATE	ZIP
Brown	Jean	123 Maplewood	Detroit	MI	48202
Marley	Gail	456 Ole Lyme	Fishers	IN	46219
Smith	Dave	555 Breezy Lane	Pittsburgh	PA	15209
Wilcox	Luke	159 Rice Ave	Berkley	MI	48404
Smith	Eddie	357 Garden	New York	NY	10010
Hailey	Wendy	321 Main Street	Jersey City	NJ	17310
Marley	Gail	456 Ole Lyme	Fishers	IN	46219
Smith	Dave	789 Krammer Ct	Pittsburgh	PA	15206

The image below is another example of a poorly designed table showing a list of customers and orders (two units of information). Notice the need to enter duplicate information: The name, address and phone number for each order listed. If you didn't duplicate the information you would end up with orphaned records when you attempt to sort the data by order amount, for example. This can become a time-waster for entering data in addition to creating a mess when sorting the rows of data. It also increases the potential for typos and, as a result, duplicate records which are often responsible for errors in reports and queries.

CUSTOMERS & ORDERS				
NAME	**ADDRESS**	**ORDER #**	**ORDER DATE**	**AMT**
Jean, Brown	123 Maplewood, Detroit, MI 48202	1006	4/5/2012	490
Jean, Brown	123 Maplewood, Detroit, MI 48202	1201	3/1/2012	1,200
Jean, Brown	123 Maplewood, Detroit, MI 48202	1375	5/15/2012	325
Wilcox, Luke	159 Rice Ave, Berkley, MI 48404	1131	8/1/2012	550
Wilcox, Luke	159 Rice Ave, Berkley, MI 48404	1257	10/15/2012	695
Wilcox, Luke	159 Rice Ave, Berkley, MI 48404	1295	1/31/2012	195
Marley, Gail	456 Ole Lyme, Fishers, IN 46219	1306	4/6/2012	780
Marley, Gail	456 Ole Lyme, Fishers, IN 46219	1344	9/15/2012	250

The image below is the same information stored in two separate tables (two units of information) where the ID field links the two tables reducing and even eliminating the need to enter the same data. The ID field also serves as a unique identifier to prevent duplicate records. This is known as a primary key and will be discussed later in this learning program.

CUSTOMERS						
ID	**LAST**	**FIRST**	**ADDRESS**	**CITY**	**ST**	**ZIP**
1001	Brown	Jean	123 Maplewood	Detroit	MI	48202
1004	Wilcox	Luke	159 Rice Ave	Berkley	MI	90715
1009	Marley	Gail	456 Ole Lyme	Fishers	IN	16447

ORDERS			
ID	**ORDER #**	**ORDER DATE**	**AMT**
1001	1006	4/5/2012	490
1001	1201	3/1/2012	1,200
1001	1375	5/15/2012	325
1004	1131	8/1/2012	550
1004	1257	10/15/2012	695
1004	1295	1/31/2012	195
1009	1306	4/6/2012	780
1009	1344	9/15/2012	250

This example also illustrates what is known as a *one-to-many* relationship between two tables since one customer can have many orders. Notice the Customer's ID is only displayed one time in the Customer table whereas it may appear many times in the Order table. We will learn more about establishing table relationships later in this program.

Using Access 2010

Now that we have discussed key points in building a database structure, let's take a look at the Access 2010 software. In this session, you will learn how to open Access, explore the Access interface, and create a new, blank database.

Common Database Terms

We've introduced some terms already. Let's take a closer look at some of the commonly used terms we will discuss in this learning program.

- **Data** – Data is a collection of pieces of information.
- **Database** – A database is the organized collection of your data. The Access database can be sorted, queried, or amended at any time.
- **Database object** – An object is a container for the work you want Access to perform. Objects discussed in this learning program include tables, queries, forms and reports.
- **Record** – All information (all fields/columns) for every item in a file is called a record (or each individual line).
- **Field** – A record is divided into separate headings/sections and each is known as a field – this could refer to each column/heading. There are different types of fields, including Number, Currency, Date/Time and text.
- **Datasheet** – A datasheet is a different way of looking at a table, form query, or stored procedure. It is displayed in rows and columns similar to an Excel spreadsheet.

Database Objects Overview

Database Objects in Access 2010 include Tables, Forms, Queries, and Reports. They are displayed in a list on the left side of the screen for easy access. You can do quite a bit with an Object, such as copying, deleting, renaming, and exporting. Each Object has a Data and Design view for creating and editing data. You can switch between views of a Database Object to suit your preferences. Let's review a few more database terms.

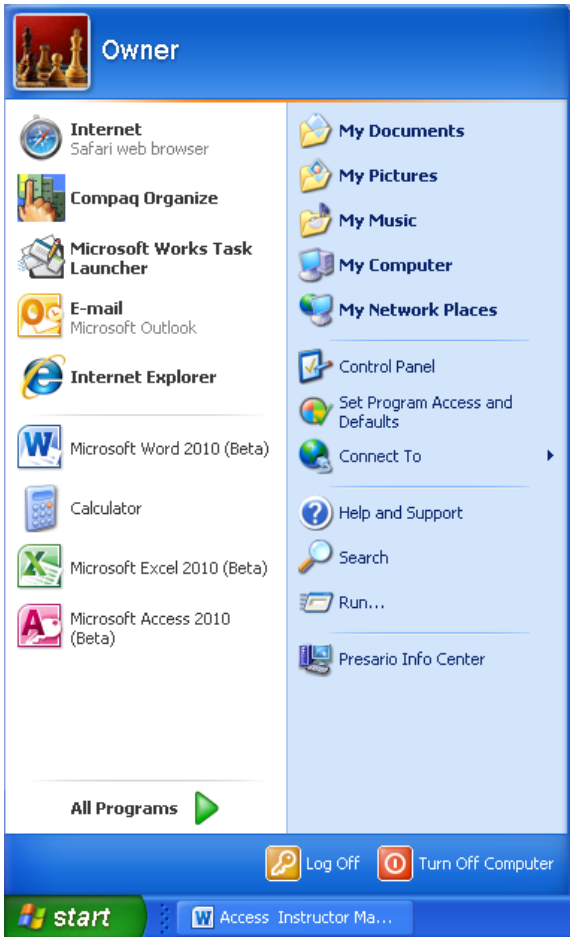
- **Table** – A table is a collection of data organized by categories called fields, into unique sets of data called records. Tables are essential part of the database because they hold the core data. The other objects are used primarily to collect, sort and report this data.
- **Query** – A query is a request you make of your data to extract only the information you want.
- **Form** – A form is a user-friendly interface used for entering or displaying data. They are helpful in collecting data for your table.
- **Report** – A report is similar to a form, but it only shows the information you want. Reports are useful for presenting your data in a professional, understandable manner.

Handout 1: Creating a Database with Tables

Opening Access & Creating a Blank Access Database

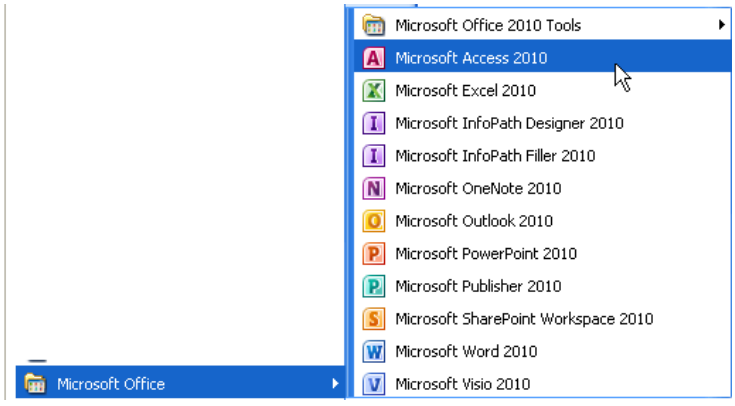
Use the following steps to open Access.

1. Select **START** (or press the Windows key on the keyboard) to open the Start menu.



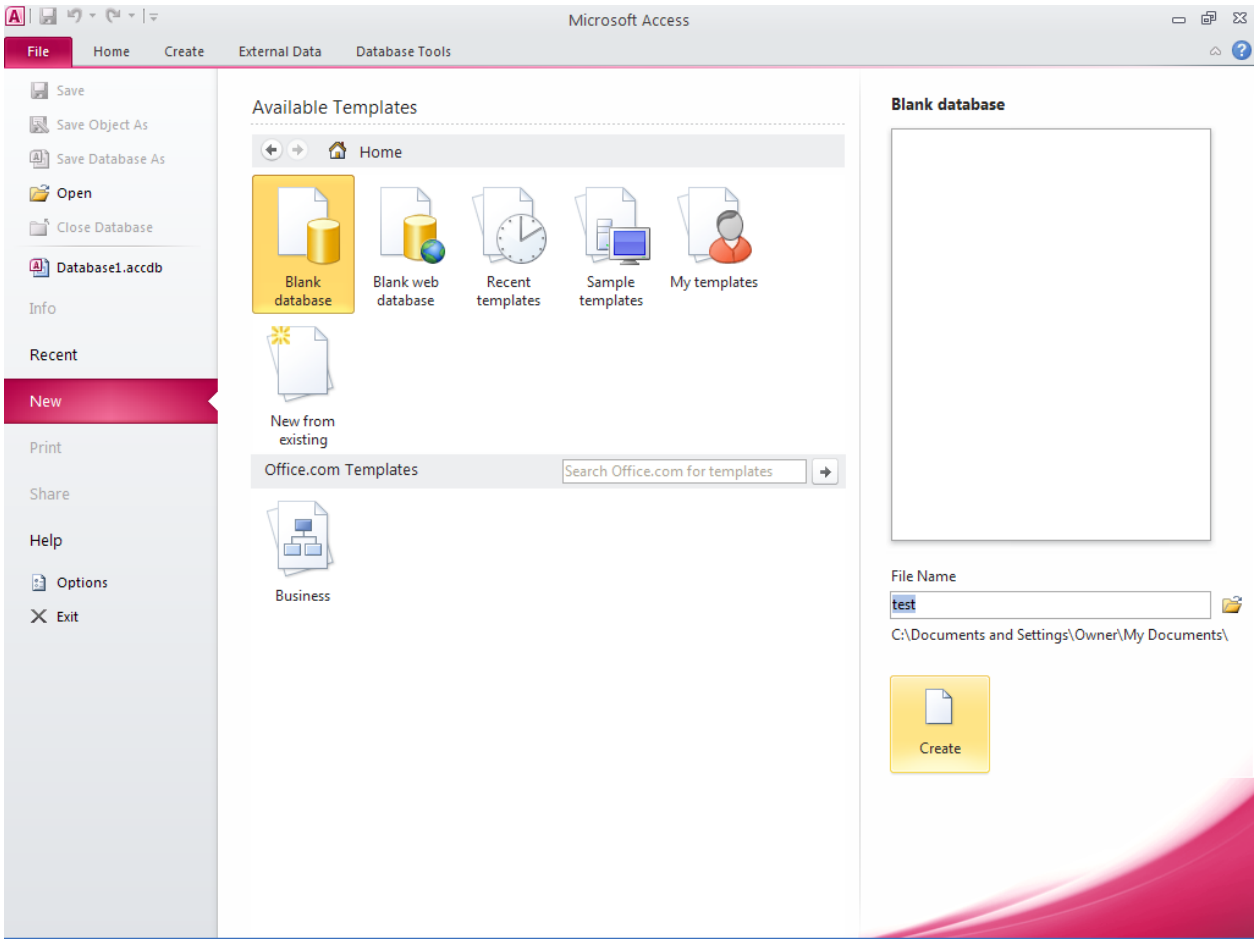
2. Select **ALL PROGRAMS**.

3. Next, highlight the Microsoft Office program group. Select **MICROSOFT OFFICE ACCESS 2010**.



Use the following steps to create a blank database.

1. From the **File** tab, select **Blank Database**. If the icon is not showing, select **Home** first.
2. Enter a name for your new database in the **File Name** box
3. Select **Create**.



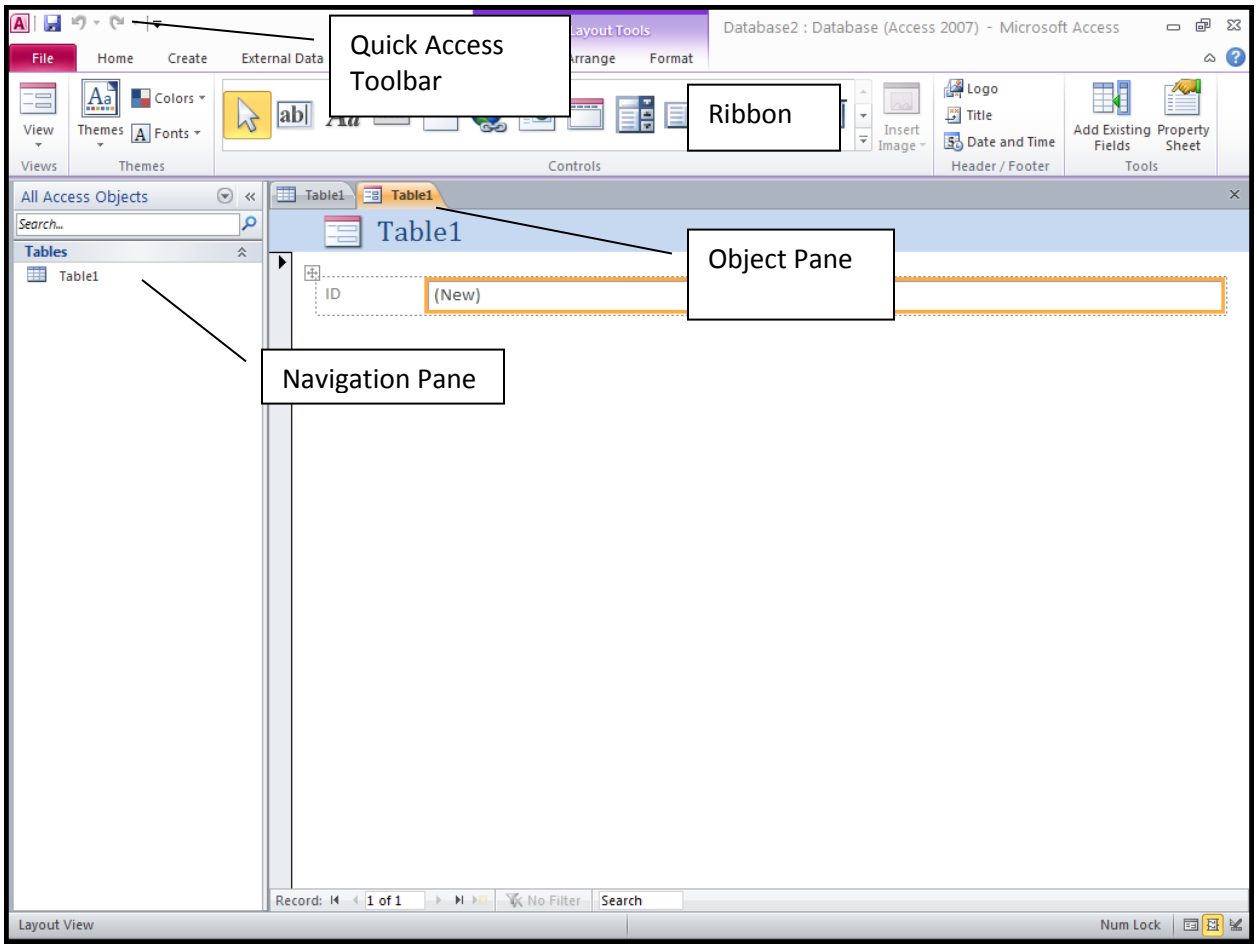
Interface Overview

As in the other Microsoft Office 2010 applications, menus and toolbars have been replaced by a new **RIBBON** interface. However, a different **RIBBON** displays depending on your view or the type of task you are performing. Each **TAB** in the active **RIBBON** contains many buttons for applying Access's features. To display a different set of commands, click the tab name. **BUTTONS** are organized into groups according to their function.

For example, when you are working with a table, the **RIBBON** interface displays **TABS, GROUPS, COMMANDS, AND BUTTONS** related to tables. The **TABS** are different for each activity to keep the most commonly used commands easy to find.

In addition to the **TABS**, there are two other elements of the new Access interface: the **OFFICE BUTTON** and the **QUICK ACCESS TOOLBAR**.

Below is the Access interface, including the Ribbon, the Navigation pane, the object window, and the Quick Access toolbar.

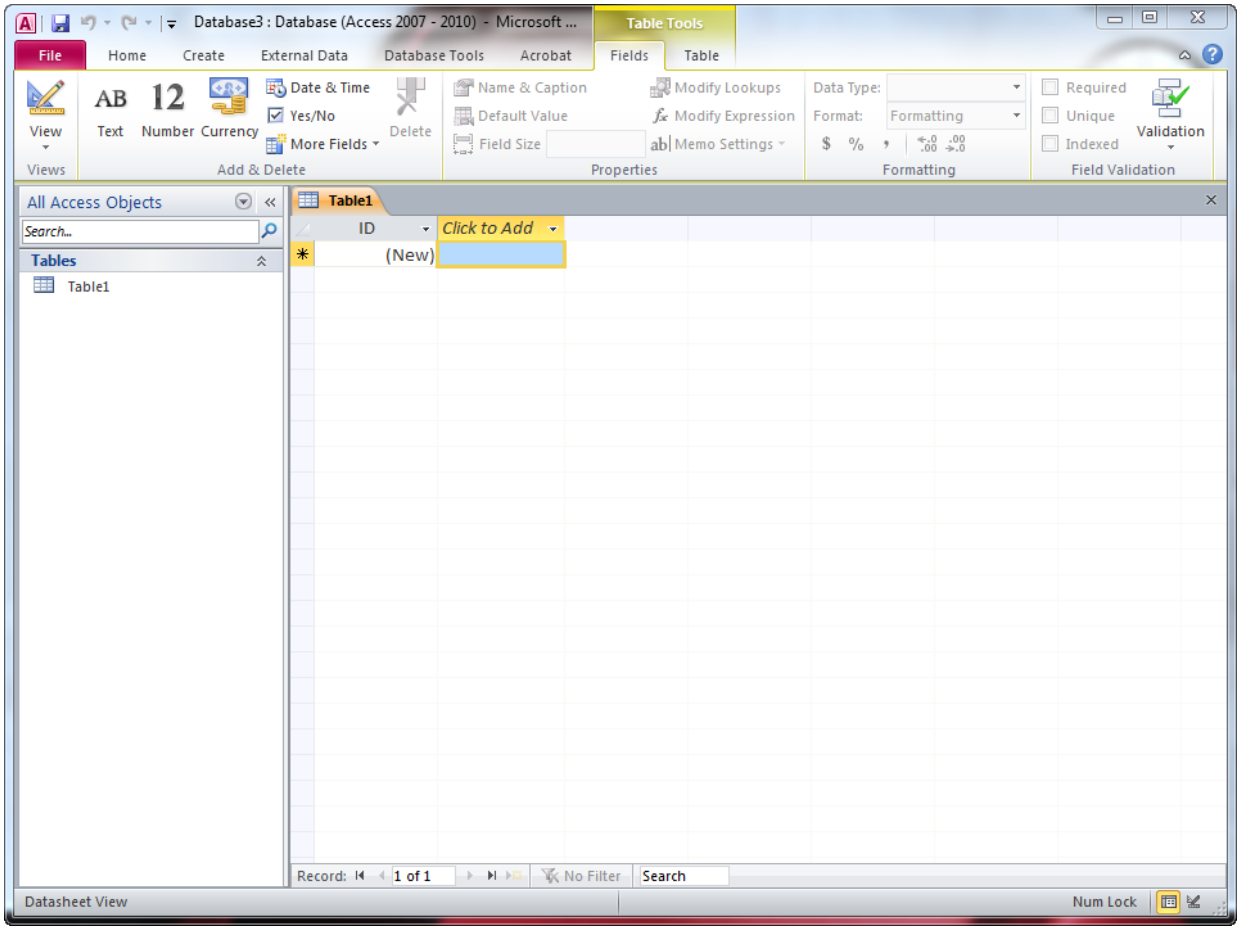


Creating Tables

Although Access is comprised of many Objects, the basic database framework revolves around Tables. As mentioned previously, each table holds information about a single topic, and is connected or related to other Tables through similar pieces of information (or fields). You can create a new Table in datasheet view or design view. You can also create a new Table from a template.

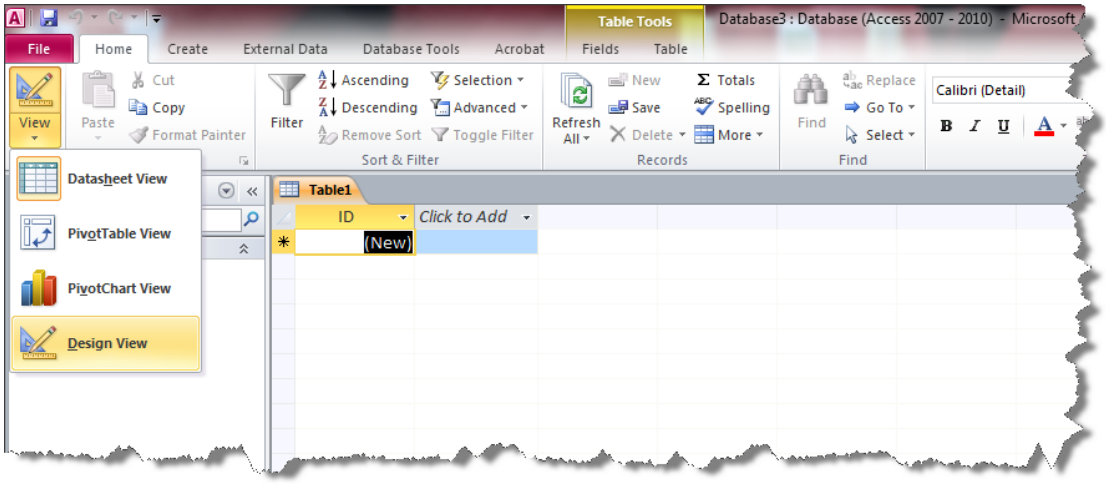
Creating a Blank Table using Design View

By default, Access includes a table when the database is created and displays it in Datasheet View.

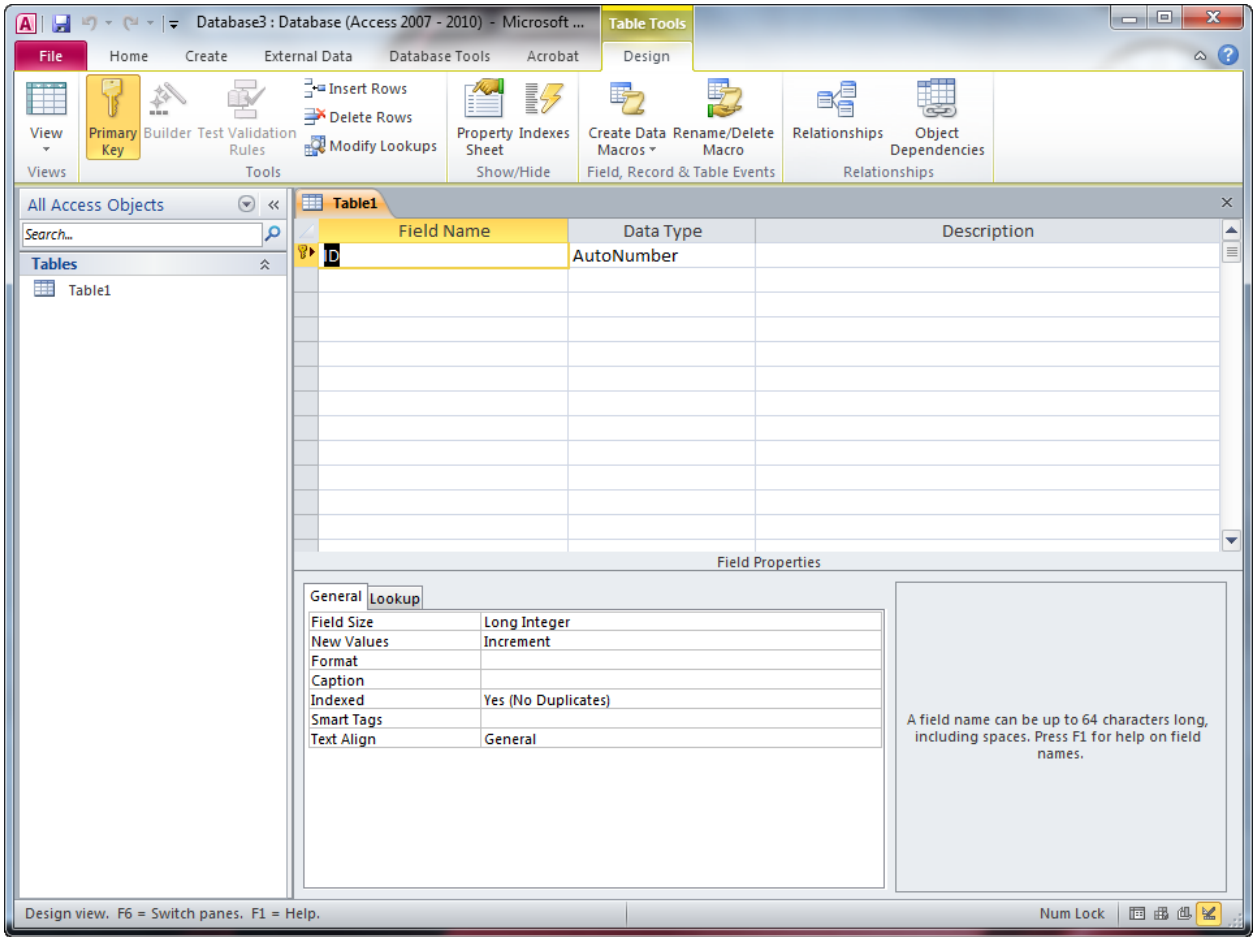


Design View allows you to quickly enter new field names rather than having to rename each field as in Datasheet View. You can assign different data types and even give your field a description that is displayed in the status bar.

To switch from Datasheet to Design View, use the View button on the *Home* tab.



The Design View is displayed. You are now ready to enter table fields.



1. For each field you want to include in the table, enter the following information:

    - Field Name
    - Data Type
    - Description (optional)

Understanding Data Types

There are several types of data fields you can use in your tables.

- **Text** – Numbers or letters, with a limit of 255 characters
- **Number** – Digits only
- **Currency** – Same as number, but with decimal places and a currency symbol added
- **Date / Time** – A valid date or time
- **Yes / No** – Accepts yes / no; true/false; on/off
- **Lookup & Relationship** – Creates a drop-down list from existing data or data you enter
- **Rich Text** – Numbers or letters, with a limit of 255 characters, includes formatting
- **Memo** – Text that is too long to be stored in text fields
- **Attachment** - Any supported type of file, including pictures, charts, text files, and so on
- **Hyperlink**– A path to an object, file or Web site
- **Calculated Fields** – Allow you to store the results of a calculation

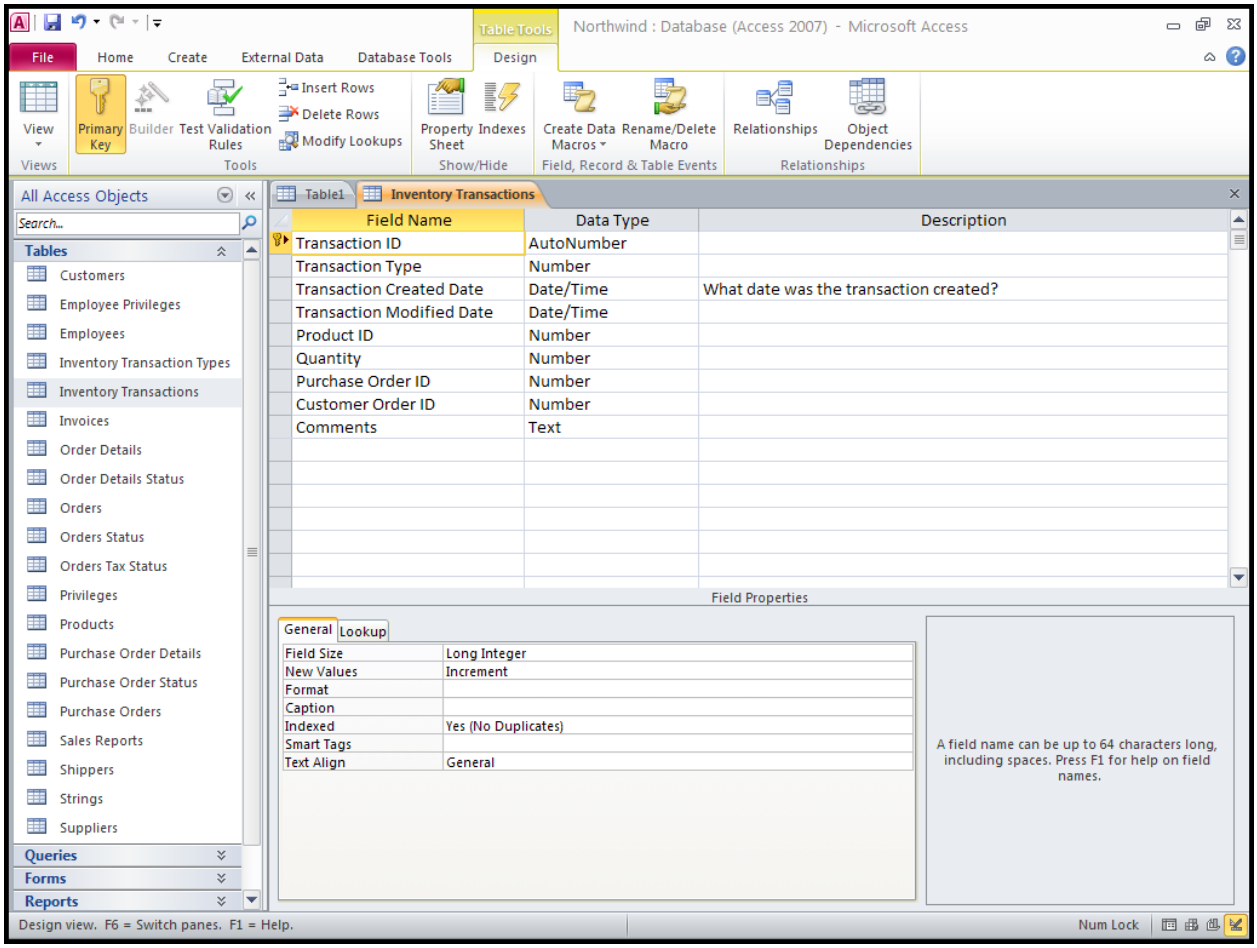
Each field has its own Data Type and Properties and there are many options available. As you grow more comfortable with Access you'll become more familiar with the different Data Types and Properties you can assign to your fields.

The default Data Type is Text. If you have multiple users, you might consider assigning specific Data Types and Properties to ensure database integrity. For example, you may wish limit users to select an option from a drop down list as opposed to entering their own data or you may want a certain date format.

If you're not sure which Data Type or Properties to assign to your field, consider how you want to use that data. For example, if you have a field containing a number, consider whether or not you will need to use that number in a calculation later.

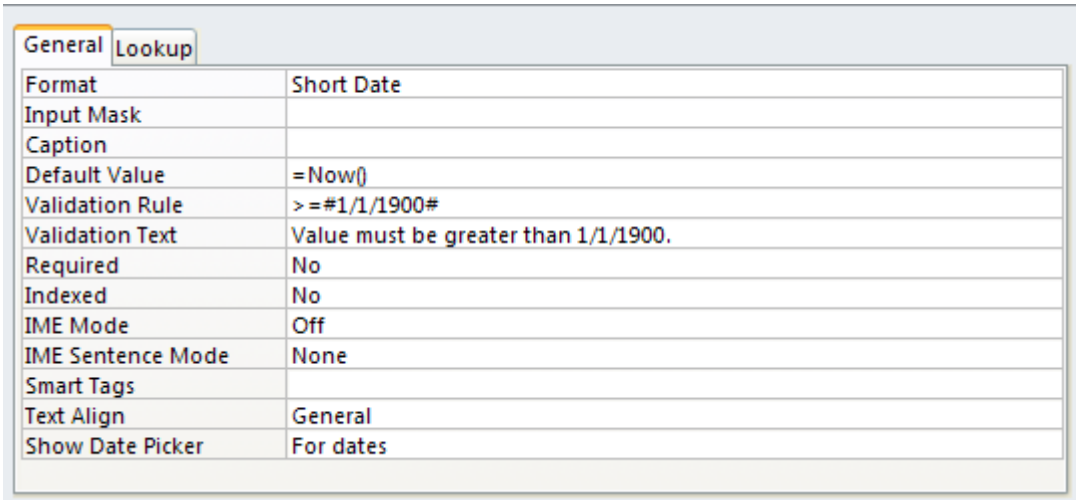
Job Aid: Microsoft Access Data Types
Job Aid: Input Mask Characters

The following example shows the Design view of a typical table and includes several different data types. A Description is added as a prompt for table users. The Description will appear in the status bar.

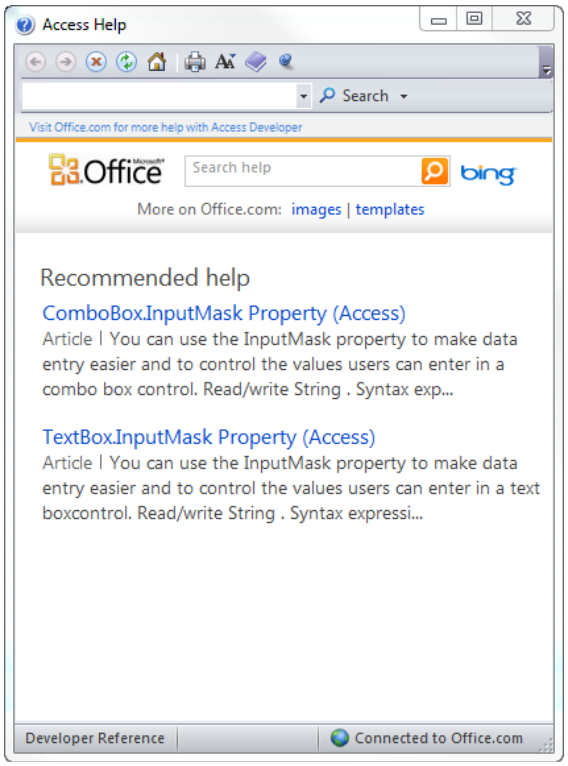


In the above example, Field Properties are displayed for the Auto Number field.

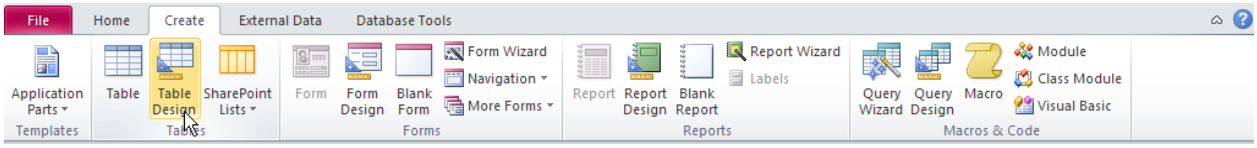
The image below is an example of field properties from a Date data type.



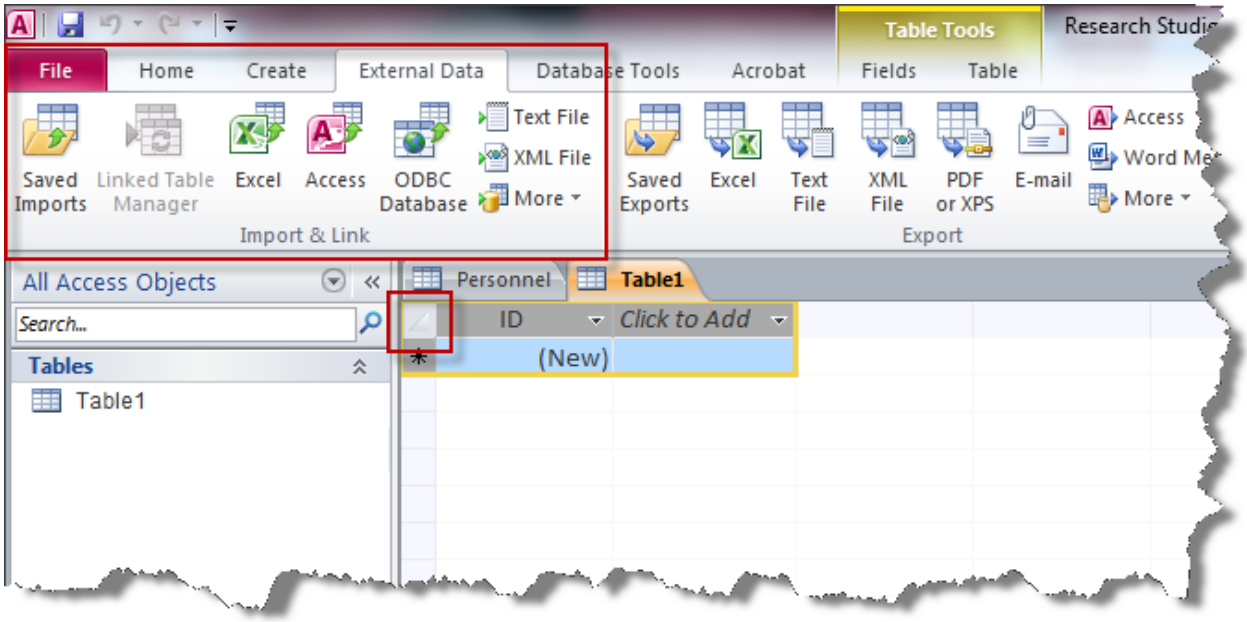
As previously mentioned, there are several data types to choose from and many more field properties available. For assistance, place your cursor on the screen where you need help (i.e. in the Input Mask line), then press the F1 key on your keyboard to open the Access Help dialog box. Like all other Microsoft applications, Access will display help links (see image below) related to your cursor position.



To create additional tables in Design View select **Table Design** from the *Create* tab on the Ribbon.



You can also import data to create a new table by using the Import & Link options on the *External Data* tab or simply copy and paste data from an Excel spreadsheet by right clicking the grey box in the upper left corner of the table (see image below).

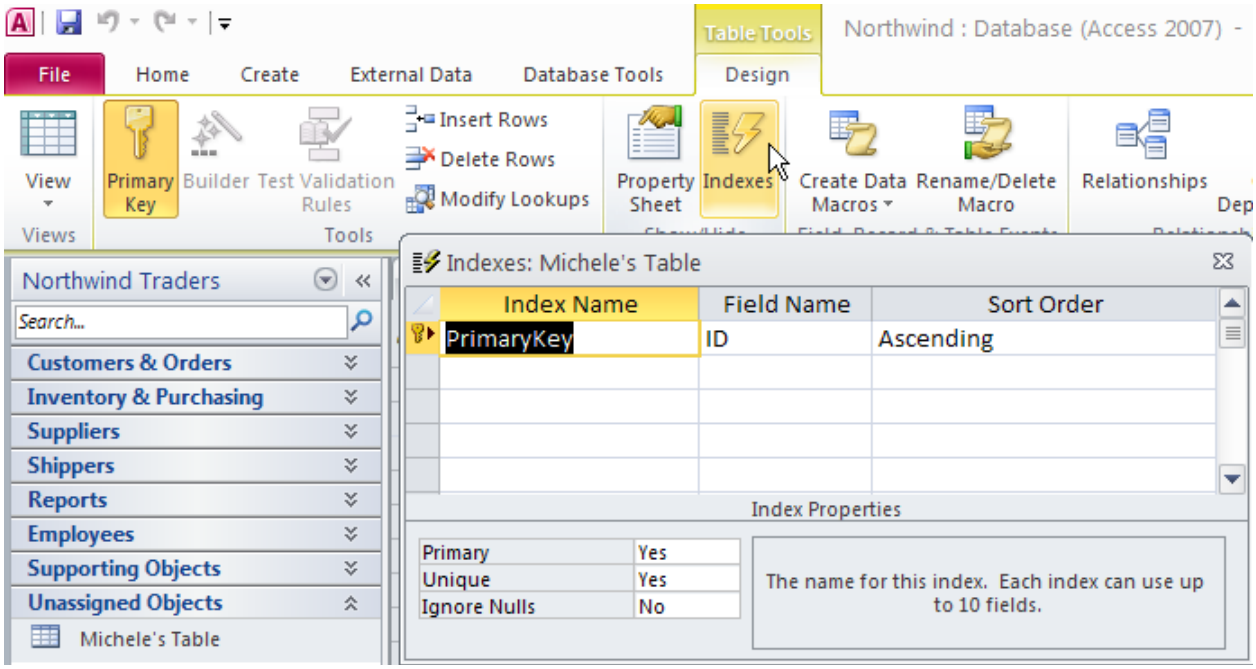


Setting Primary Keys

Do you ever wonder why doctor's offices sometimes ask for your Social Security Number or telephone number and not your name? They're looking up your information in their database using what's known as a Primary Key. Primary keys are unique fields. Since there could be more than one person with the same name, many doctor's offices use a more unique identifier such as your phone number or social security number and assign it as a primary key to ensure that there are no duplicate records are entered.

A ***Primary Key*** is required in each table. There must be one Primary Key. Highlight the field to be used as primary key and select Primary Key.

To discover what field is set as a primary key in an existing table, select the Indexes tool to open it the Indexes window.



This window allows you to view and control the primary key for the table.

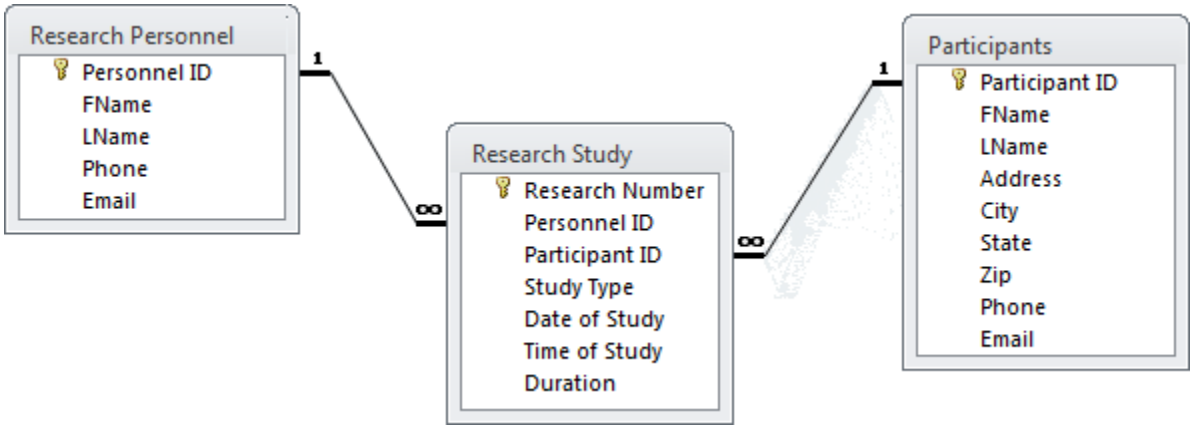
Establishing Table Relationships

There could be just two tables or several tables depending on the contents of your database. Like any relationship, you need to have something in common to establish a connection. For example, a buyer and a realtor would connect to discuss housing options.

Notice there are three units of information in the above example: Realtor, buyer and housing options. In terms of Access, there would be three tables and two relationships in this simple database structure. Let's look closer at another example.

Let's say you work for a group of researchers who conduct various studies. The researchers seek participants to volunteer in their studies. You want your database to keep track of which researcher conducts which studies and which participants participated in which studies. You have three units of information (three tables) and gather all the information (fields) needed for each table. Remember each table should only be about one thing. To prevent duplicate records, you should always assign a unique identifier (primary key) in each table as well.

The image below, illustrates three tables with what is known as a *one-to-many relationship* between them. Notice the primary key in each table. Notice also the number 1 representing the "one" side of the relationship and the ∞ (infinity) symbol which represents the "many" side of the relationship known as the Foreign Key.



The first relationship exists between the Research Personnel Table and the Research Study Table. This particular example utilizes a one-to-many relationship. The primary key in the Research Personnel table is defined so his or her record only shows up one time in this table (i.e. Dr. Jay would only show up once in this table). However, a researcher could conduct more than one research study, therefore, Dr. Jay may be identified multiple (many) times in the Research Study table.

The second relationship exists between the Research Study Table and the Participants Table. This example is also a one-to-many relationship since a participant could volunteer for more than one research study. The participant's record would only show up once in the Participant Table but may appear more than once in the Research Study Table. There are also one-to-one and many-to-many relationships which are less common.

To establish table relationships, Foreign keys are added to the related table (Research Study table in this example). A Foreign key (a field link) must have exactly the same properties (field size, data type, etc.) as their respective Primary key; however, they can have a different field name.

The above example is a simple database structure. Most likely, your database will be more complex and include additional units of information such as a Results table to track participant's results for each study or a Room Schedule Table to track where the studies are taking place and so on. What's important is that you remember each table should only be about one unit of information and that might mean there are only a couple of fields in a table.

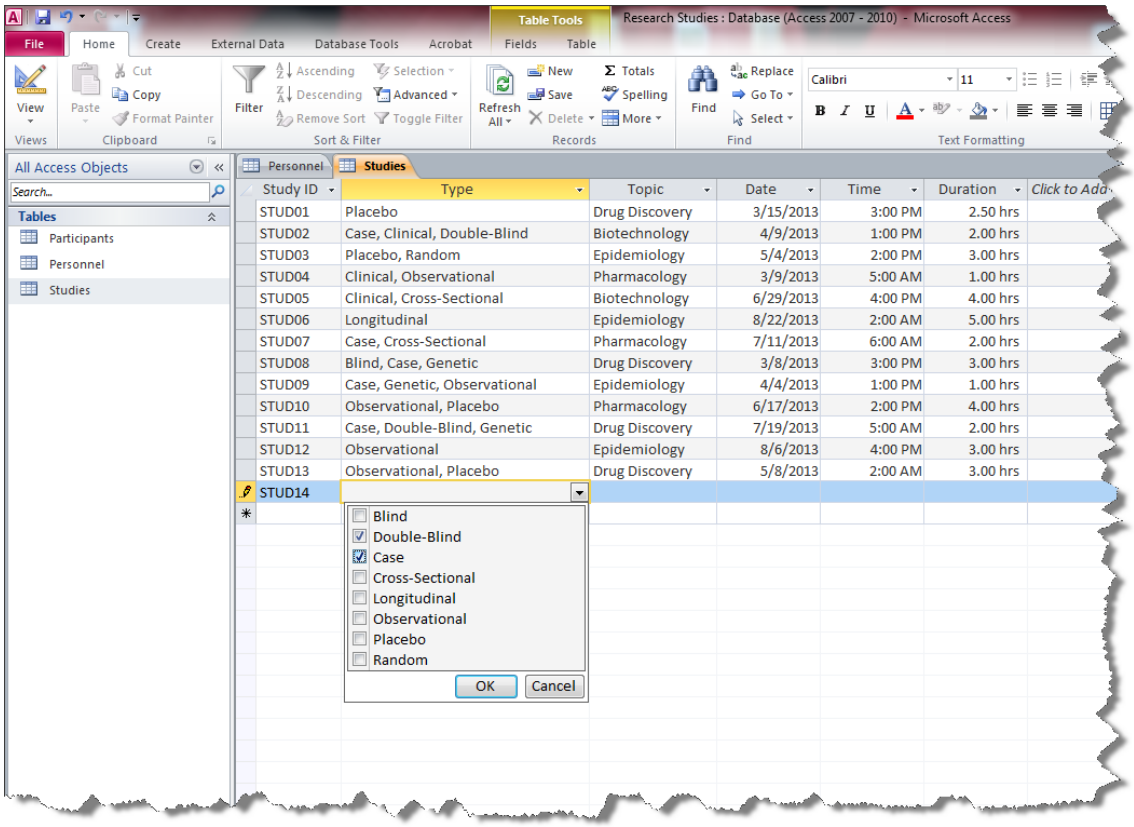
Working with Tables

Now that you have defined the table fields, you are ready to start entering your data. Each row of a Table is called a record. It contains information about a specific item. For example, the LName field might contain the name "Smith" and so on. The work you may do most in Access is with your tables. This includes adding information, as well as editing or deleting records.

Adding Information to a Table

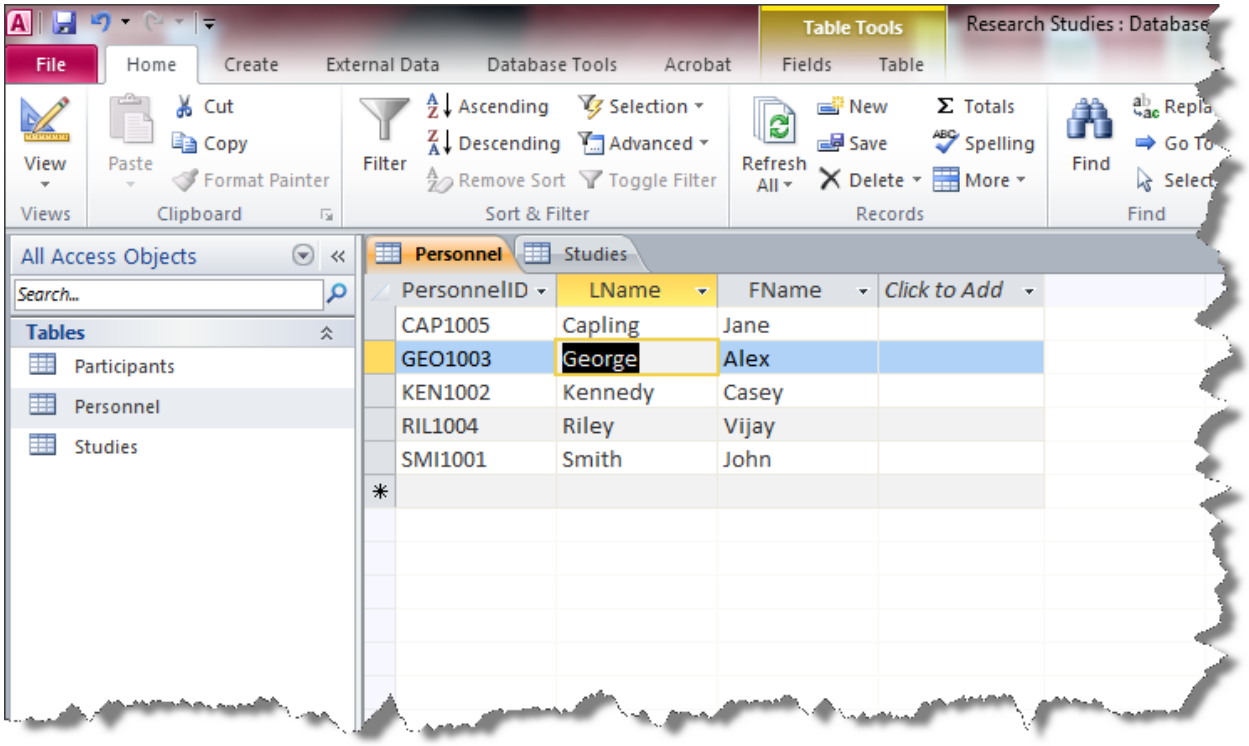
The last row of a table includes the word **New** in the Primary Key field (you may have to make the column wider to see the word New). Use this row to enter new data.

As you enter new data records in your new table, notice how the field properties control how the data is entered. This Access feature is particularly useful when working with large amounts of data and especially when you have several people entering data in the same table.



Editing Records

Updating or editing records are a normal part of maintaining a database. For example, one of your research personnel recently had her name changed or maybe was initially misspelled. Editing a record is a simple matter of changing the desired information in the table. Highlight the data you want to change (see image below) and enter the new information.



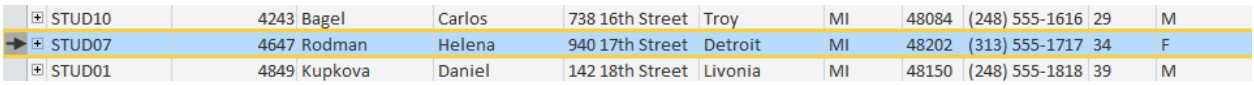
After you have entered the new information, close the table. There is no need to save – Access saves the new information in the table automatically.

Deleting Records

You can easily delete a record that has been entered by mistake, or that is no longer needed. Access displays warning messages to make sure that you do not delete a needed record accidentally.

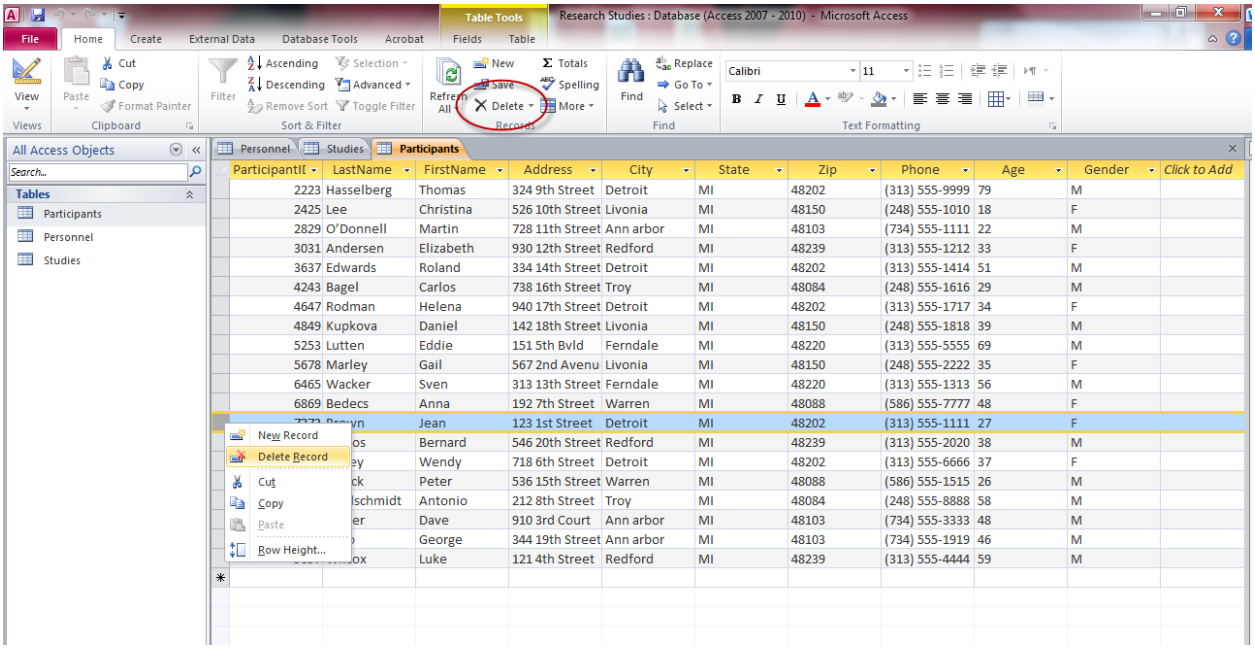
To delete a record,

1. Point your mouse to the blue column at the left of the record you want to delete.



STUD10	4243	Bagel	Carlos	738 16th Street	Troy	MI	48084	(248) 555-1616	29	M
STUD07	4647	Rodman	Helena	940 17th Street	Detroit	MI	48202	(313) 555-1717	34	F
STUD01	4849	Kupkova	Daniel	142 18th Street	Livonia	MI	48150	(248) 555-1818	39	M

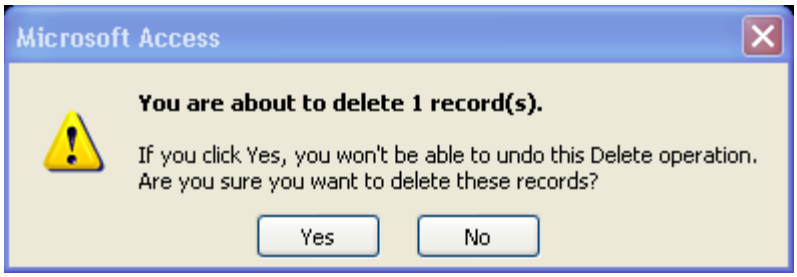
2. Right click the mouse to display the context menu



3. Select **DELETE RECORD**.

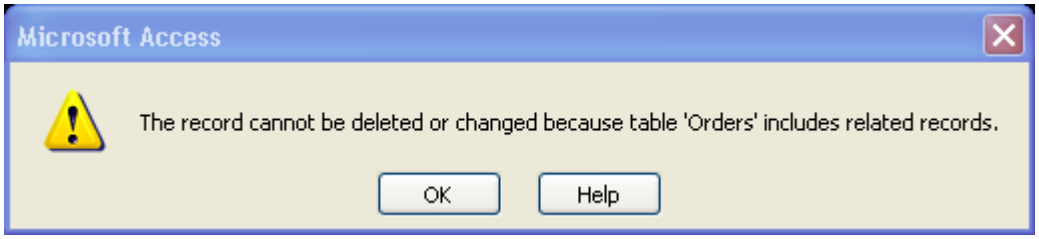
You can also press the delete key on your keyboard or click the Delete button on the *Home* tab

Access displays a warning message.



4. Select **YES**.

If a field from the record you selected is used in a related table, Access will not allow you to delete the record. It displays a warning message. A sample is illustrated below.

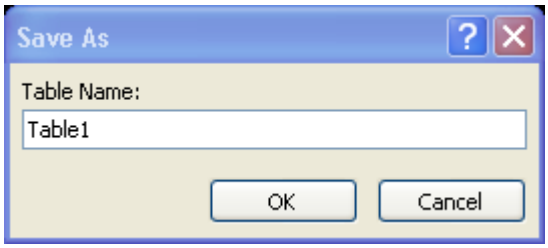


5. Select **OK** to close the warning.

If you need to delete the record, you'll need to change the data in the related table, so that it no longer references this record. More on table relationships later in this course.

Saving Your Table

When switching between Design and Datasheet views, Access will prompt you to save the table whenever there's a change. When creating your table for the first time, Access will prompt you for a table name. Below is the Save As dialog box, which opens whether you use the keyboard shortcut to save, or the tool on the Quick Access Toolbar, or if you try to close the table.



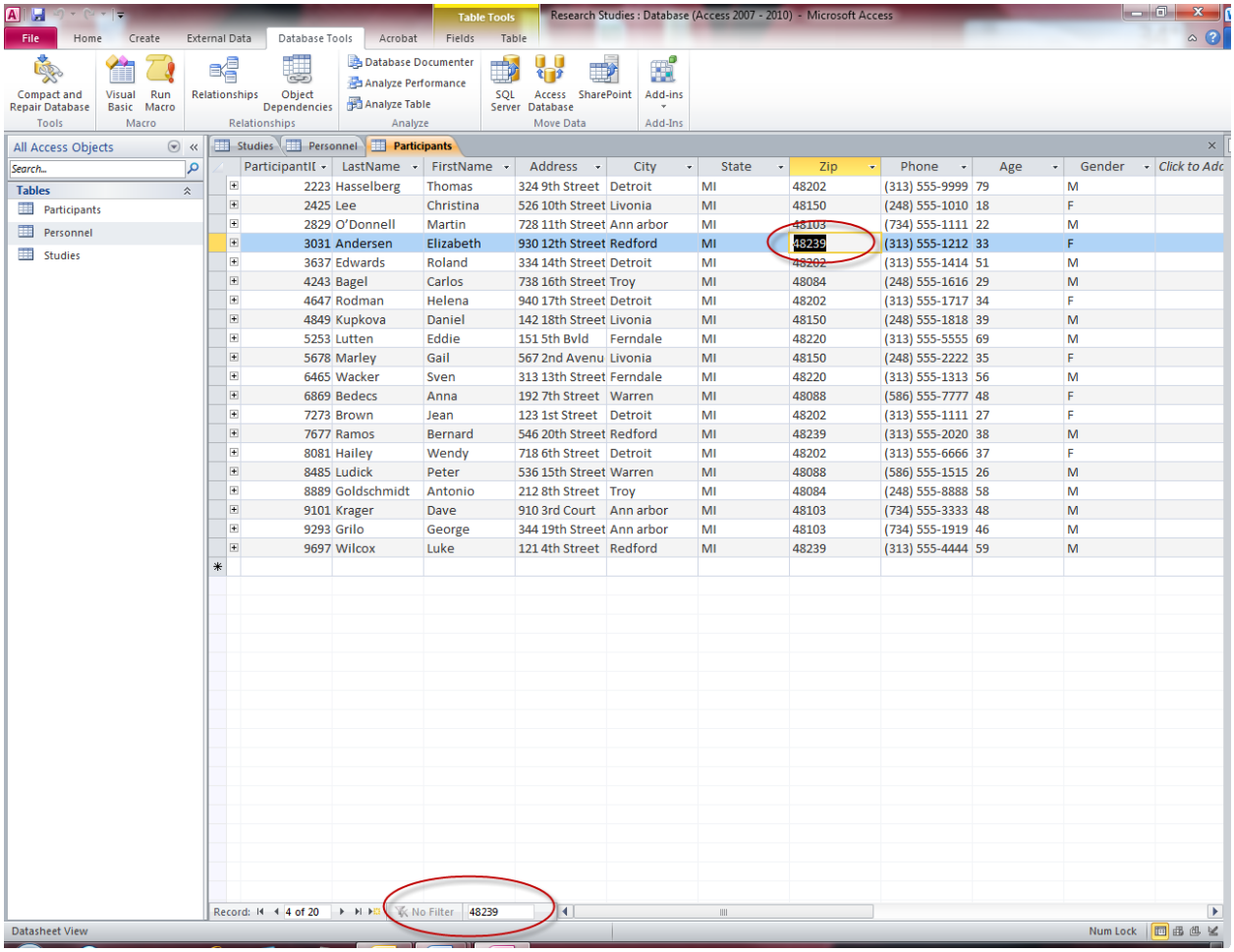
Enter the name of the table and select **OK**.

Searching for Records

You may need to find a specific piece of information for sorting, filtering, editing, or deleting. Access 2010 includes a Search box to help you find that record. Access searches from the first record to the last record for text that matches the text in the Search box.

The example below is a table on Inventory Transactions. Notice the + sign next to each record indicating the linked data (relationship) from another related table.

To search for a record, use the Search box at the bottom of the screen.



1. Entering the text for which you want to search in the Search box.

Access immediately highlights the first occurrence of the text or numbers that appear in the table.

2. Press **ENTER** from the Search box to move to the next instance of the Search text.

eLearning: Creating Basic Tables in Access 2010 (4 Lessons & Posttest)
eLearning: Table Relationships in Access 2010 (1 Lesson)

Follow the steps below to complete the above eLearning requirements.

Step 1: Logon to Accelerate
Step 2: Click the My Plan tab (on left)
Step 3: Click the *Access 2010 Blended Learning Program* folder
Step 4: Complete the assignments as noted above

Accelerate
Employee Development Tools

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You do not need to complete the entire eLearning in one sitting; however, you should avoid closing the course window by clicking the red  and use the course's  button to close the course. Using the  button will ensure the system saves your progress and you can begin where you left off when you exited the course.

Creating Forms

Forms are a visual way of requesting information in one or more related tables. Think about a paper form you have recently filled out. What kind of information did it ask you for? Your first name? Your address? These fields can be used to populate your tables. You could use these same fields to create your Access form.

Forms often show one record at a time to collect information for tables. Like tables, you can add, edit and delete records using a form. The records can be added, edited or deleted in the table that the form is linked to.

The easiest way to create a form is to use the Form Wizard and modify (if needed) in Design View. There are many formatting options available to easily create attractive forms. If you're using Design View, it helps to be familiar with the many types of controls.

Types of Controls

Controls are the fields that appear on the form into which the database users enter data. Controls also include various other objects that appear on the form.

Bound controls are related to a field on a table in your Access database. These controls display the values that come from your tables.

There are several types of controls you can use on your forms. We will discuss some of the more common controls. When you create a form, Access uses the data types and properties you set for your table fields (drop down menus, etc.) making it less time consuming to create a user-friendly form.

Below is a list of the various types of controls that you can use in Design View. Please refer to the job aid as needed for further details.

- Text box
- Label
- Button
- Tab Control
- Hyperlink
- Web Browser Control
- Navigation Control
- Option Group (group of radio buttons)
- Page Break
- Combo Box (drop down list)
- Chart
- Line
- Toggle button
- Rectangle
- Check Box
- Unbound Object
- Attachment
- List Box
- Option Button
- Sub form/Sub report
- Bound Object Frame
- Image

Job Aid: Controls in Access Forms

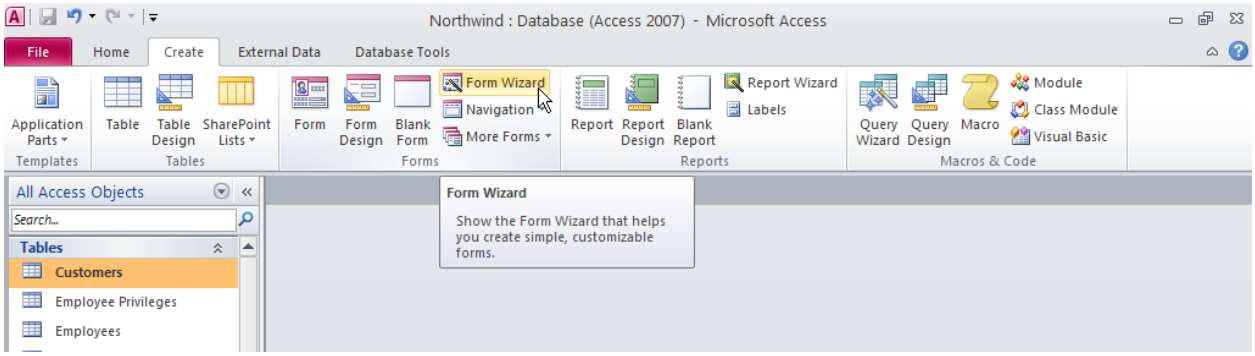
Creating a Form with the Wizard

The Form Wizard allows you to easily create a new form based on the data you want to capture.

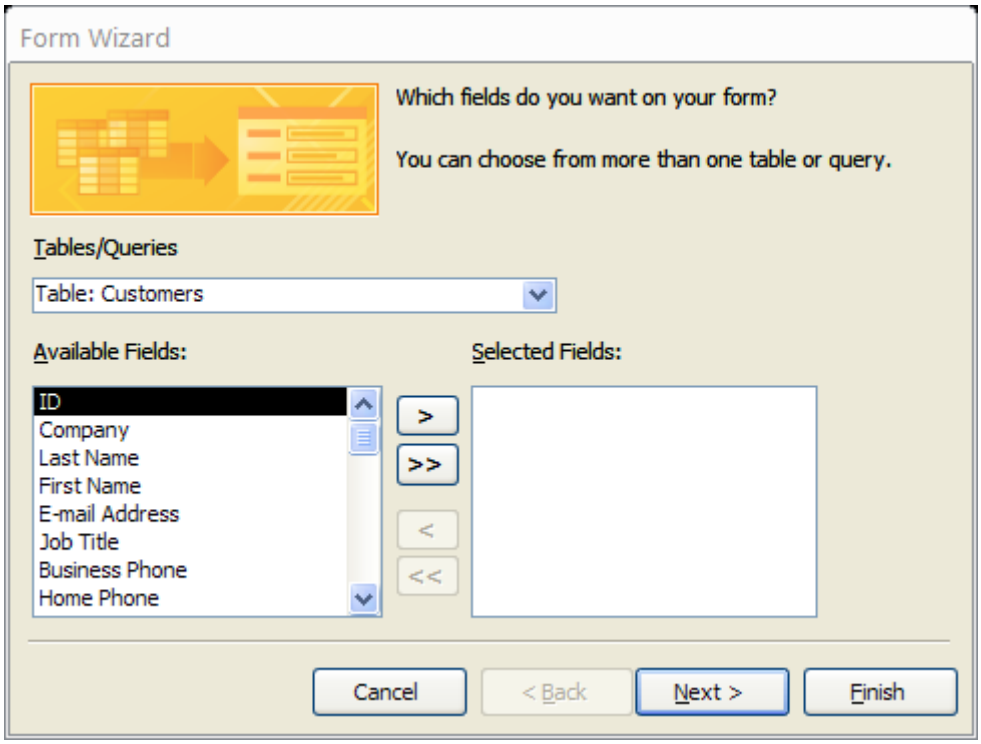
Handout 3: Creating a Form

This example uses the Customer table as a starting point. Use the following steps to create a form using the wizard.

1. In the Navigation pane, highlight the table (or query) that you want to use on your form.
2. Select the **CREATE** tab on the Ribbon. Select **FORM WIZARD**.



Access opens the Form Wizard.

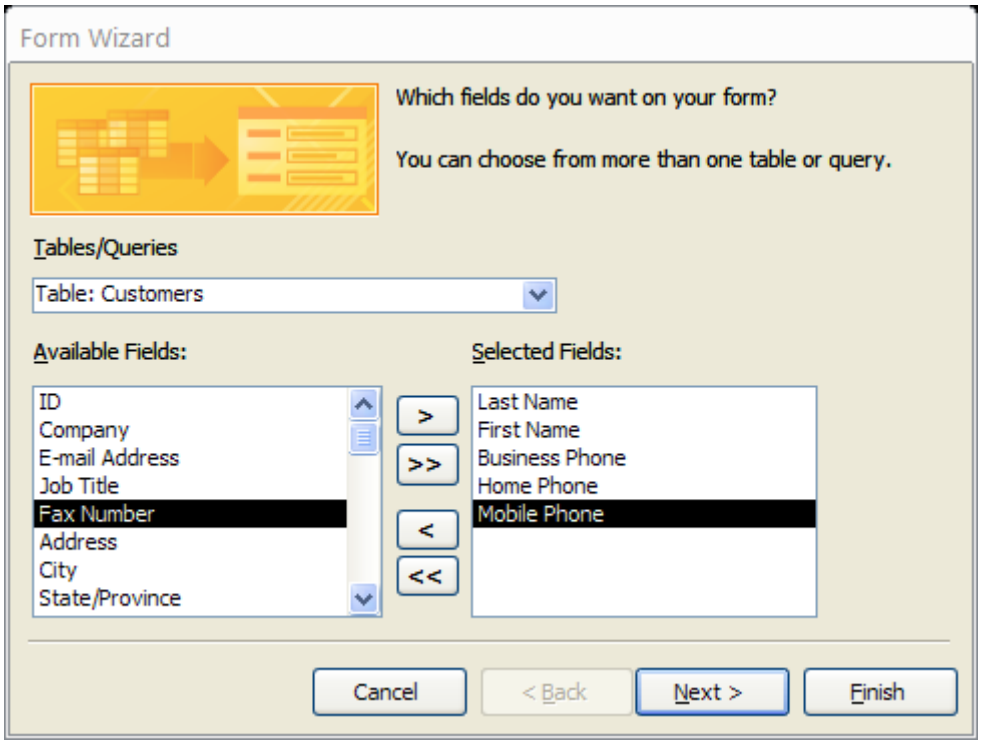


3. You can select more than one table or query for the data you want on your form. The table you highlighted in the Navigation pane is selected, but you can change it by selecting a new item from the **TABLES/QUERIES** drop down list.

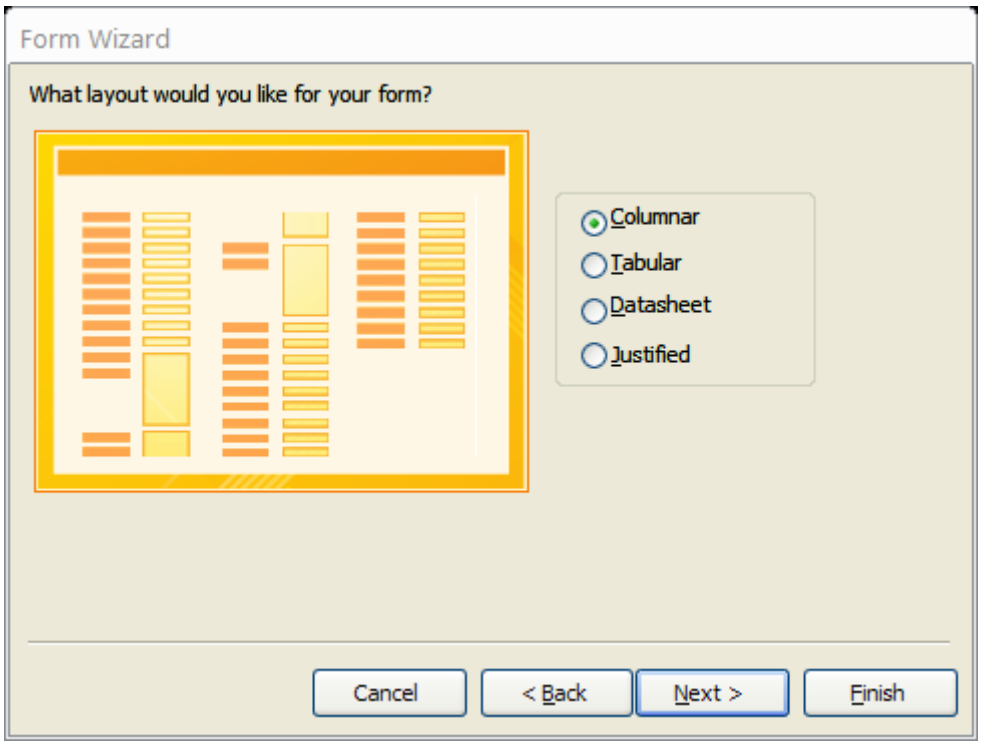
4. The fields available on the selected table appear in the **AVAILABLE FIELDS** column. Double-click the fields you want on your form, or highlight the field(s) and select the right arrow (or the double right arrow to select all). The items in the **SELECTED FIELDS** column will appear on your form.

To remove an item from the **SELECTED FIELDS** column, highlight it and select the left arrow (or the double left arrow to remove all). To add fields from an additional table, return to step 3.

5. When you have finished selecting the fields to appear on your form, select **NEXT**.

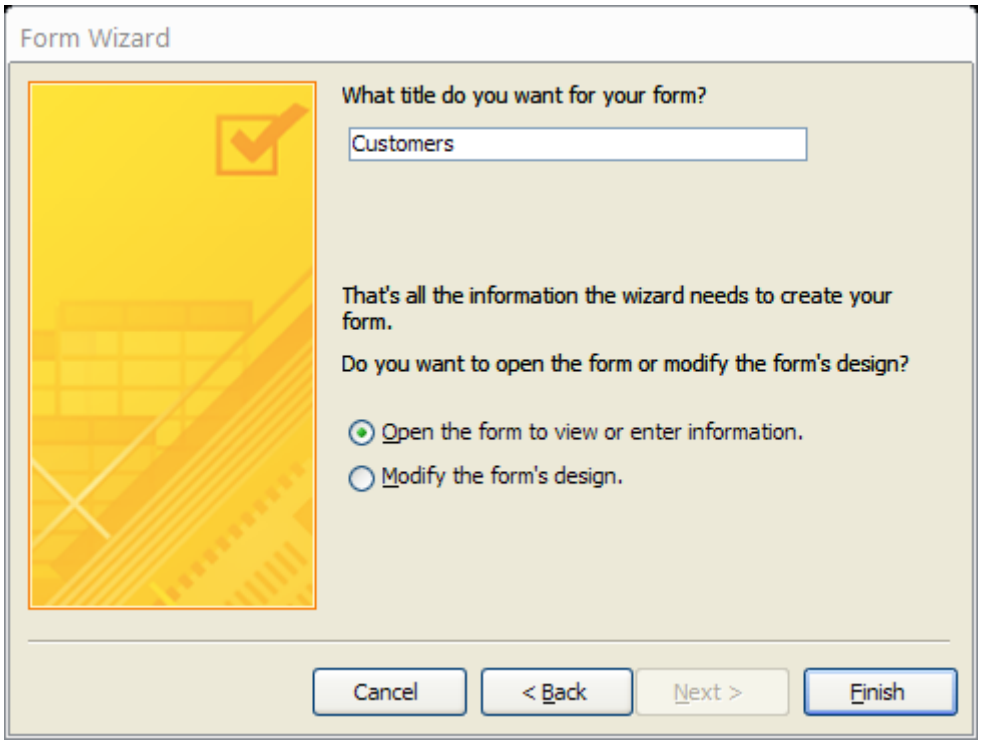


The next screen on the wizard allows you to select a standard layout for your form.



6. Select one of the layout options and select **NEXT**.

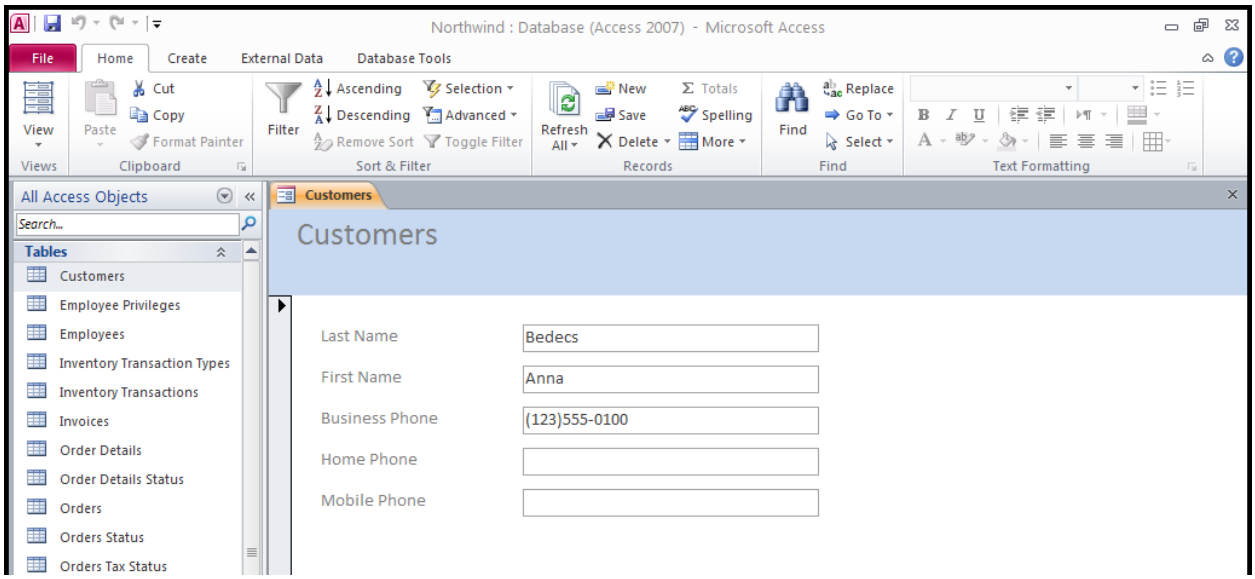
The final screen of the wizard allows you to name your form.



7. Verify the default name, or enter a new name for the form.

8. Select whether you want to open the form to view or enter information, or if you want to modify the form's design.

9. Select **FINISH**.

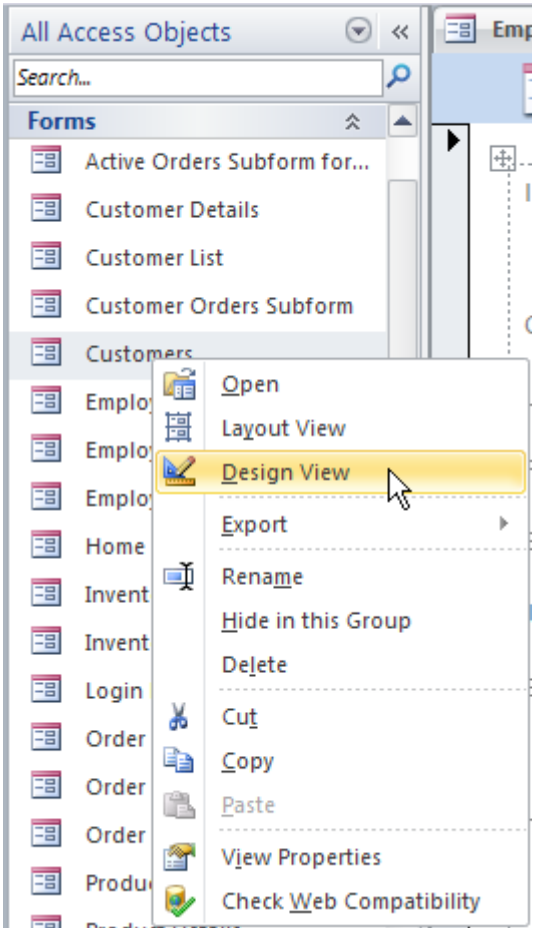


Modifying Your Form in Design View

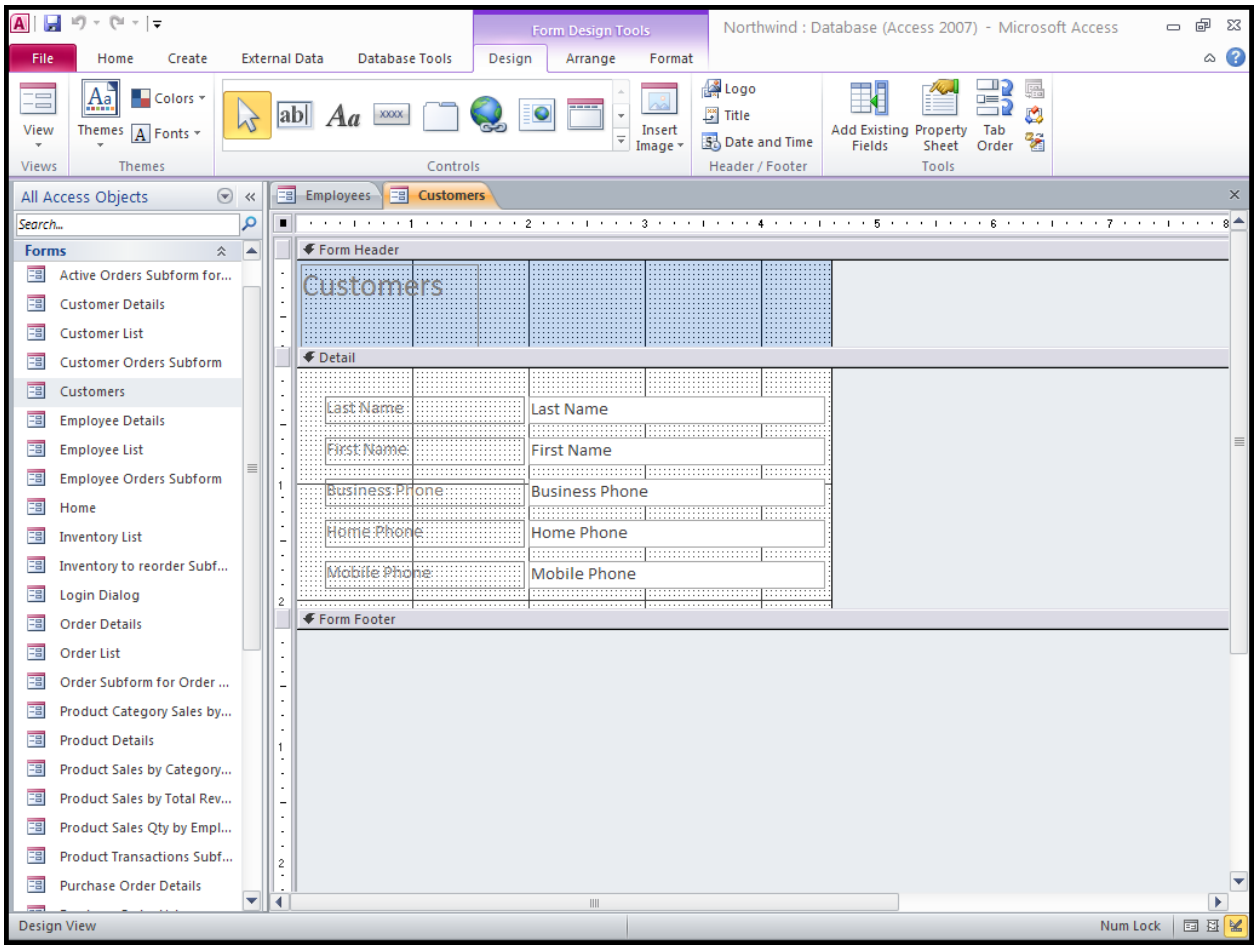
Design view allows you to customize the structure of your form. It does not display form data, like the Layout view does, so it is not as useful for changing the layout of the form. However, it provides additional controls and allows you to control the form properties.

1. With the form you want to modify open, select the design icon on the bottom right hand corner of the screen.

You can also open the form from the Navigation pane in design view. Right click on the form to display the context menu. Select **DESIGN VIEW**.



Access opens the form in design view.

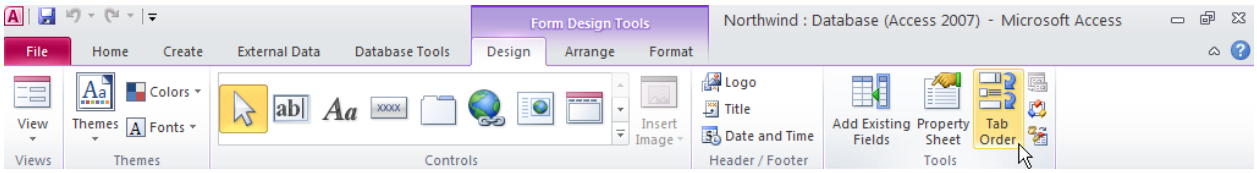


Design view includes the Form Header, the Form Footer, and the Detail sections. By default, the grid is displayed to assist with aligning controls.

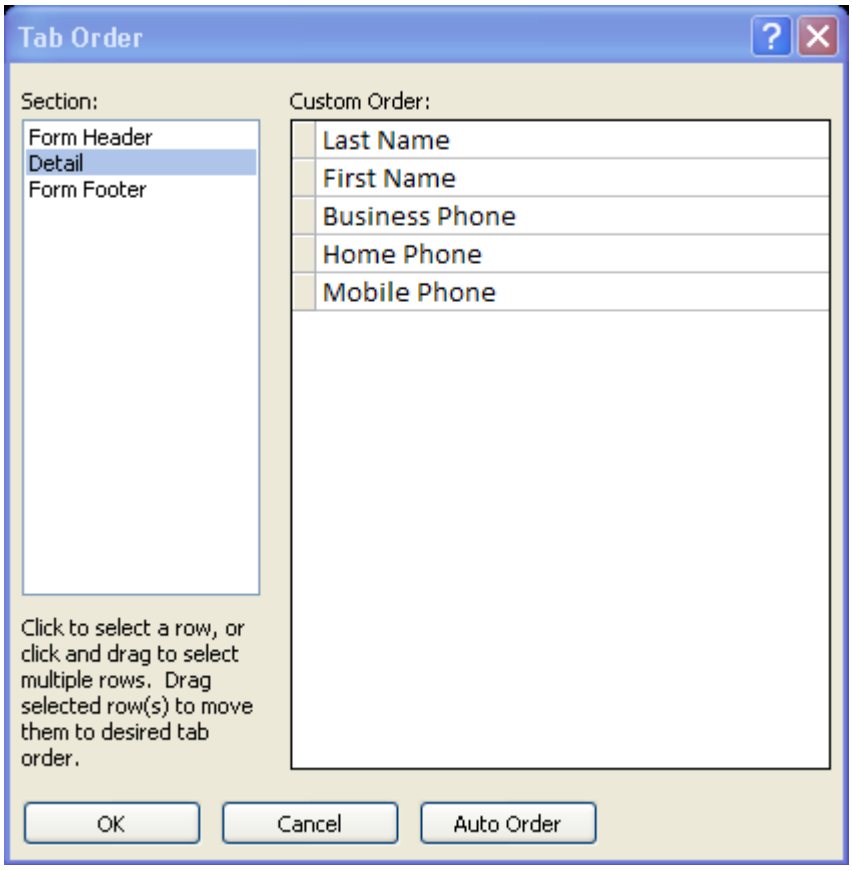
Like many forms, you use the tab key to navigate to each field to input a record. By default the tab will stop in the order the fields are presented in the table or query. You can change the tab order so that your form flows more easily.

Use the following steps to change the tab order.

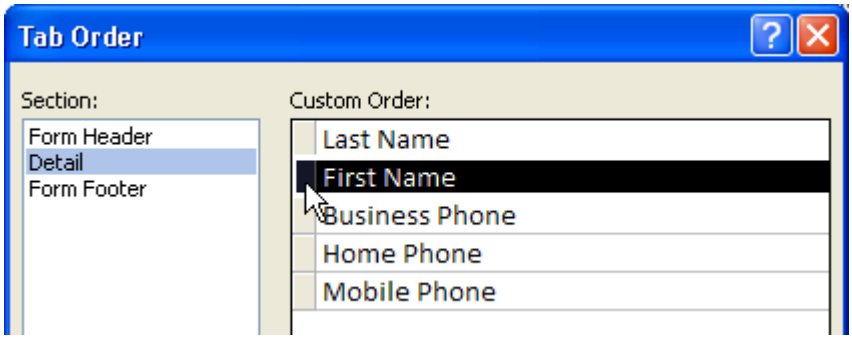
1. Select **TAB ORDER** from the **FORM DESIGN TOOLS/DESIGN** tab on the Ribbon.



Access displays the Tab Order window, illustrated below.



2. To change the order, highlight the row you want to move. To highlight click on the area to the left of the field name.



3. Drag the field to the new location.

4. Select **OK** when you have finished.

Working with Forms

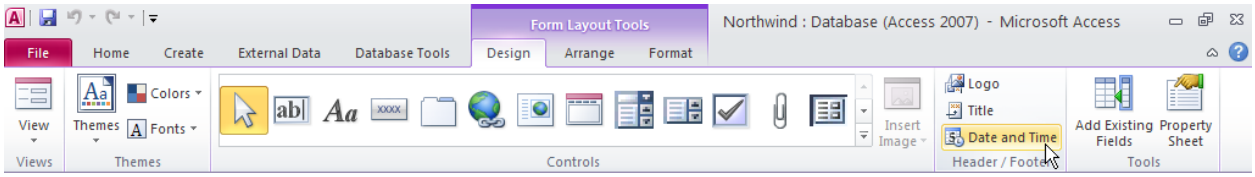
In this section, you will discover ways to work with your forms to customize them to your needs using some of the most common formatting tasks, as well as adding or moving controls on a form. Just as in other Office 2010 applications, Access includes Themes to help with formatting, which we'll discuss.

Common Formatting Tasks

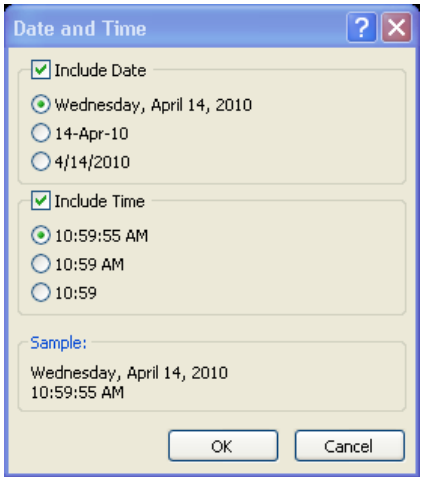
In addition to formatting the text on forms (both labels and field data), Access provides tools to allow you to add a logo, add a title, add the date and time, and add a page number. You can also add gridlines to your form.

Use the following steps to add the date and time.

1. Select the **DATE AND TIME** tool from the Ribbon.

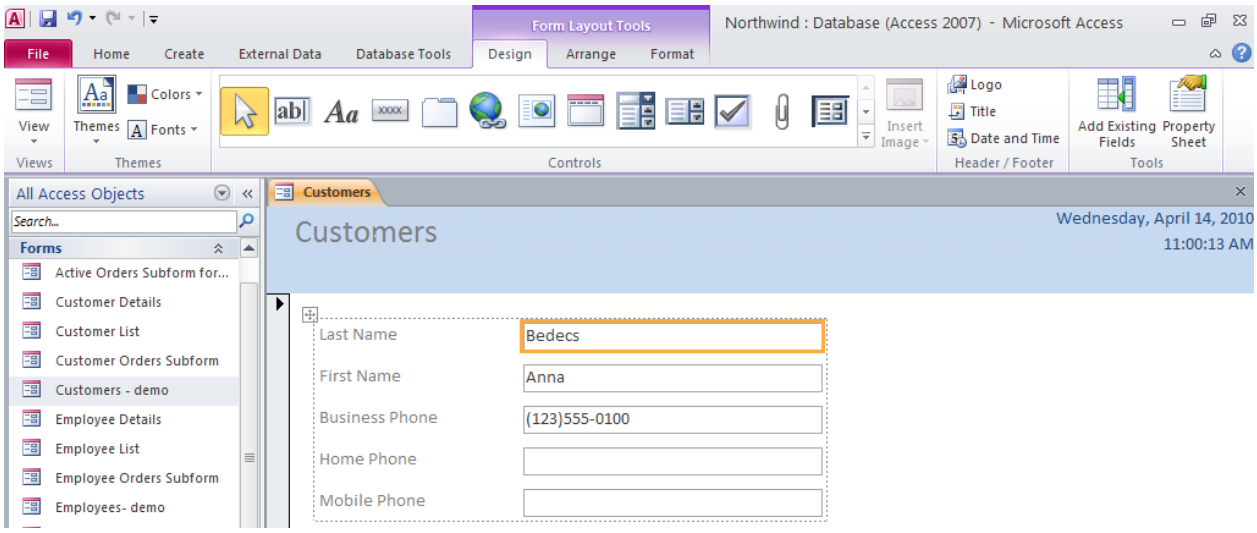


Access displays the Date and Time window.



2. Indicate the date and time option you want and select **OK**.

Access adds the date and time to the upper right corner of the header by default.



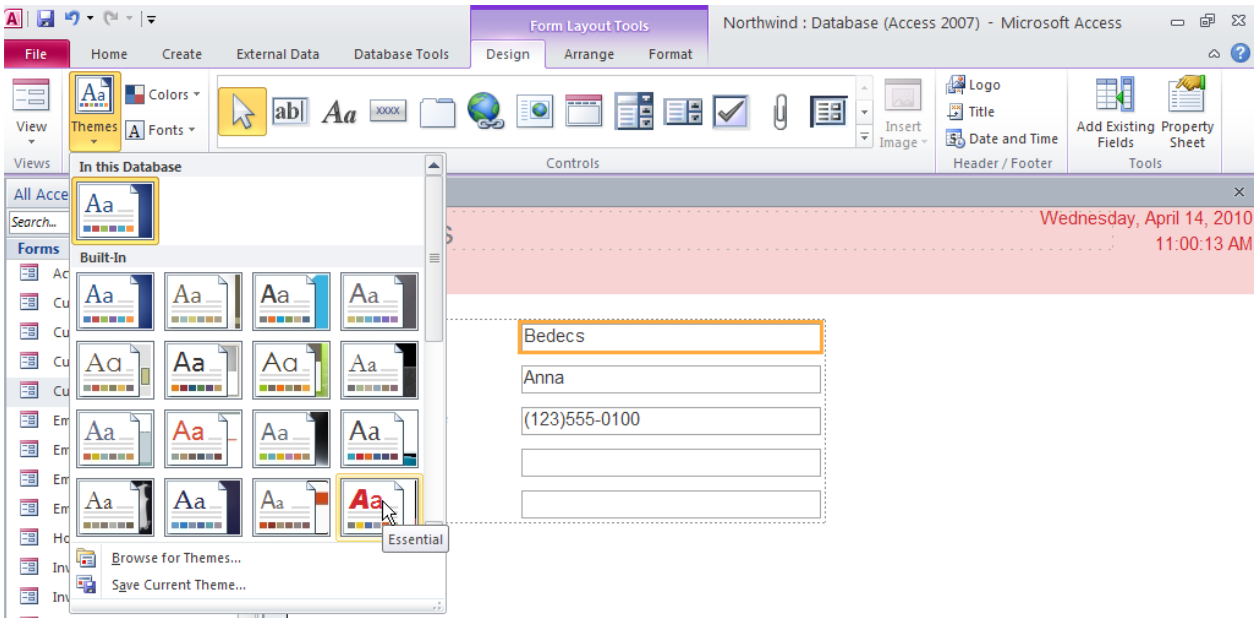
We'll discuss how to move controls later in this module.

Using Themes

Themes can simply formatting tasks and make your database objects look more consistent. You can choose the Theme you want to apply or customize your own theme with colors and fonts.

Use the following steps to apply a theme.

1. Select the **THEMES** tool on the Ribbon to see the themes gallery. Hover over the different options to see a preview.



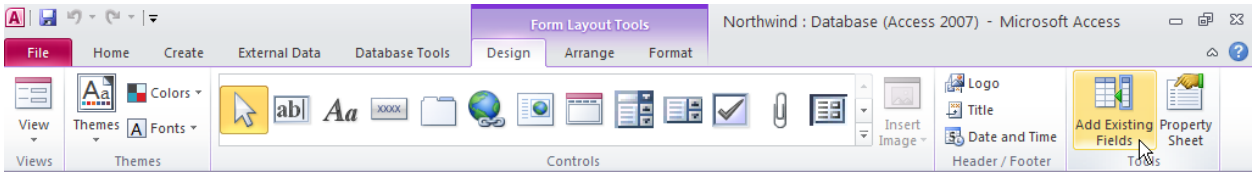
2. Select the theme to apply it.

Adding Controls

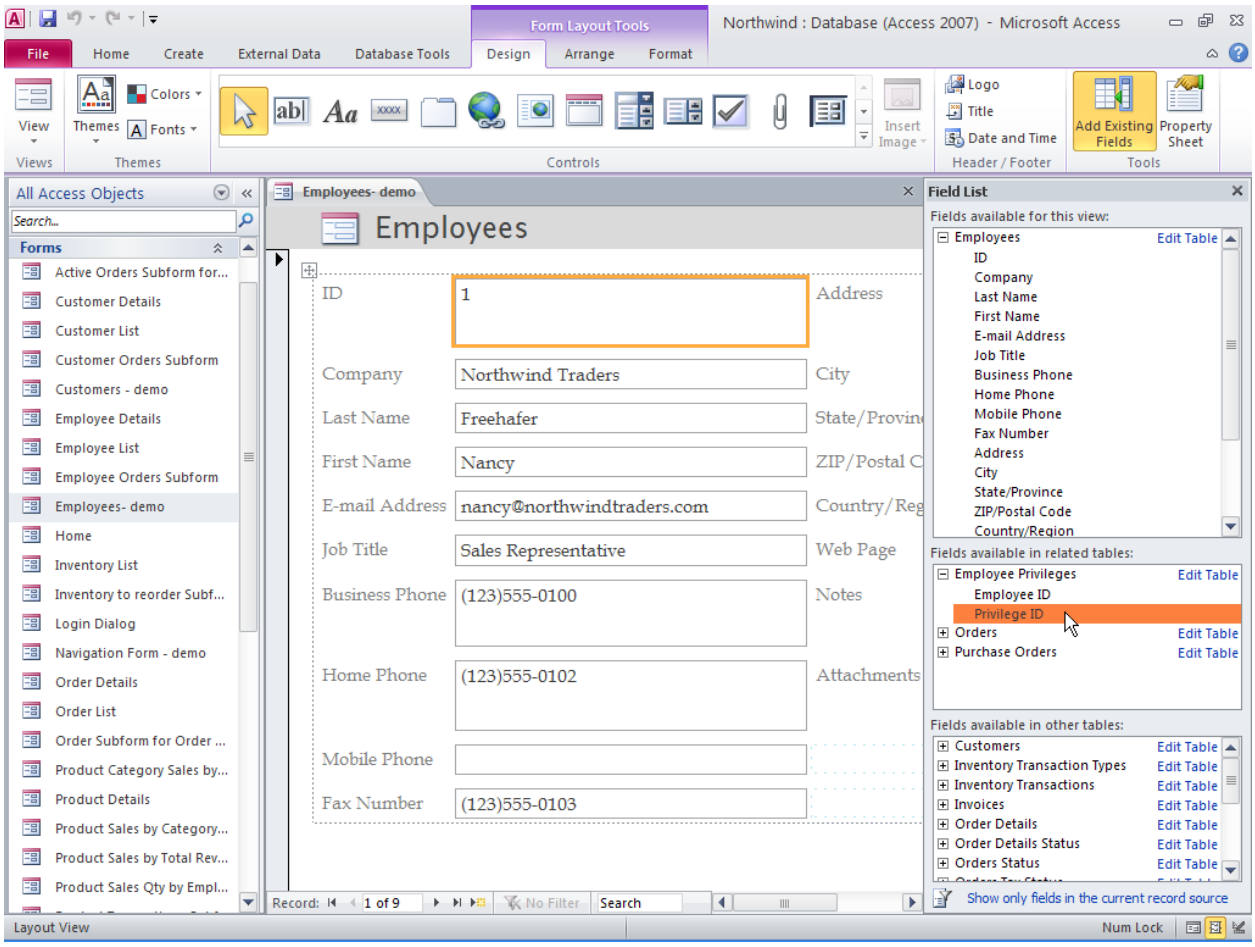
While forms created by the Form Wizard or in Layout view are very quick ways to create a form, you may need to customize a form by adding additional information. Or you may want to create a form from scratch. You can easily add controls from related tables to a form.

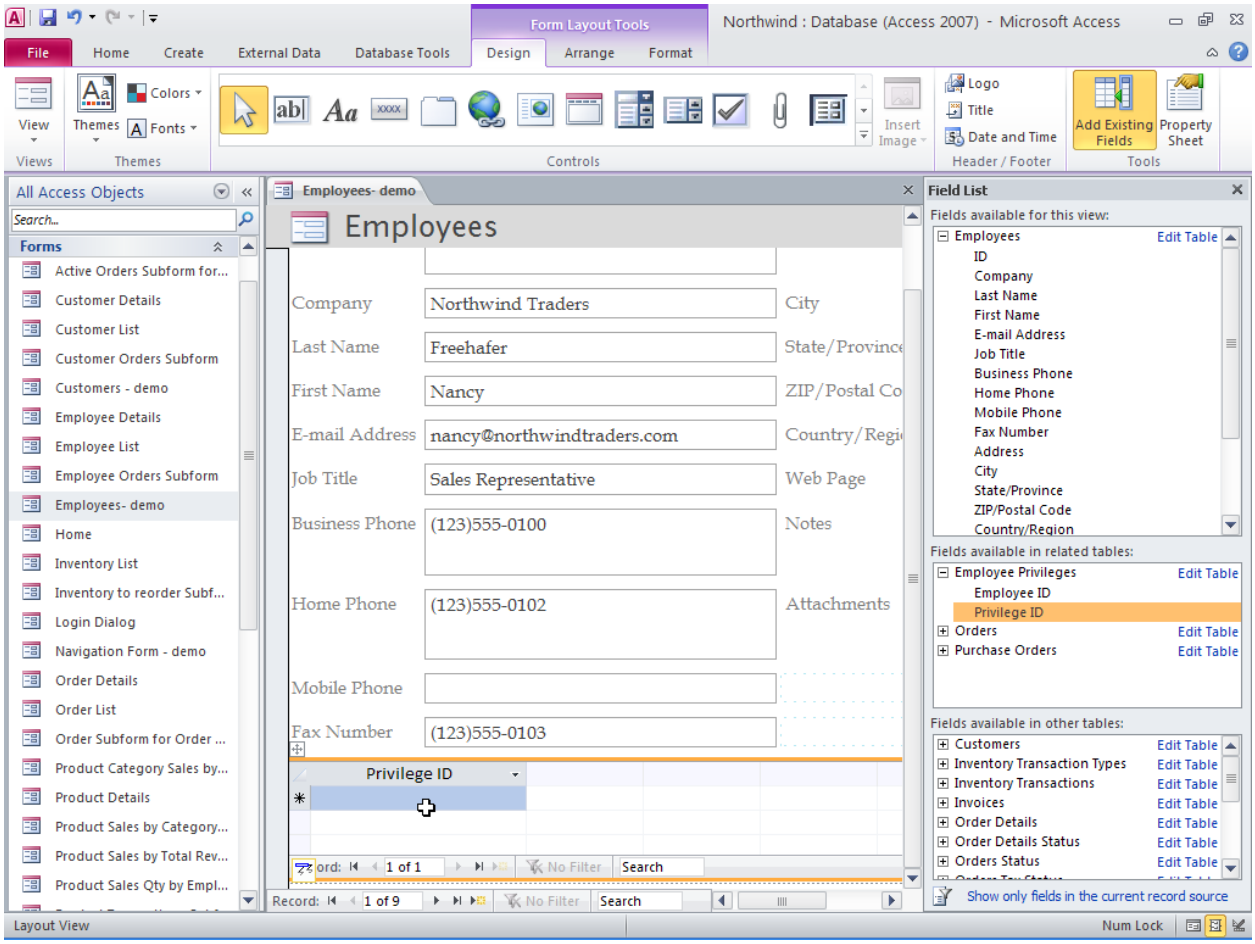
This example uses the Employees form created in the previous module. Use the following steps to add a field from a related table.

1. Open the Field List by selecting the Add Existing Fields from the Ribbon.



2. From the Field List, drag the selected field to the form.





1. Select the field you want to remove from the form.
2. Press **DELETE**.

Access removes the field and repositions the remaining fields.

Moving Controls

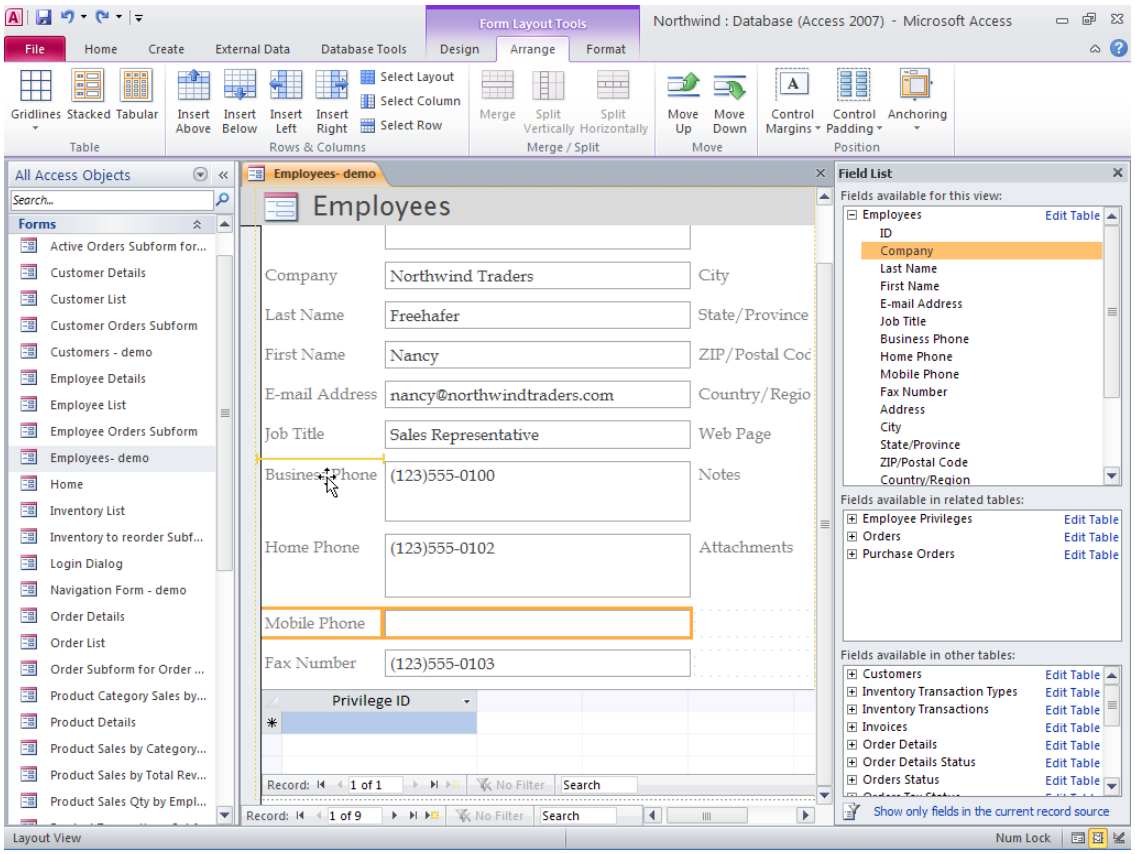
You can move or resize controls on your forms. Forms include a feature called Layouts that are guides for aligning your controls. These layouts are important if you plan to use your database on the web. When you create a new form, Access automatically uses a *stacked* layout. This is a layout where the controls are arranged vertically, with the labels to the left of the fields. The layout includes rows and columns.

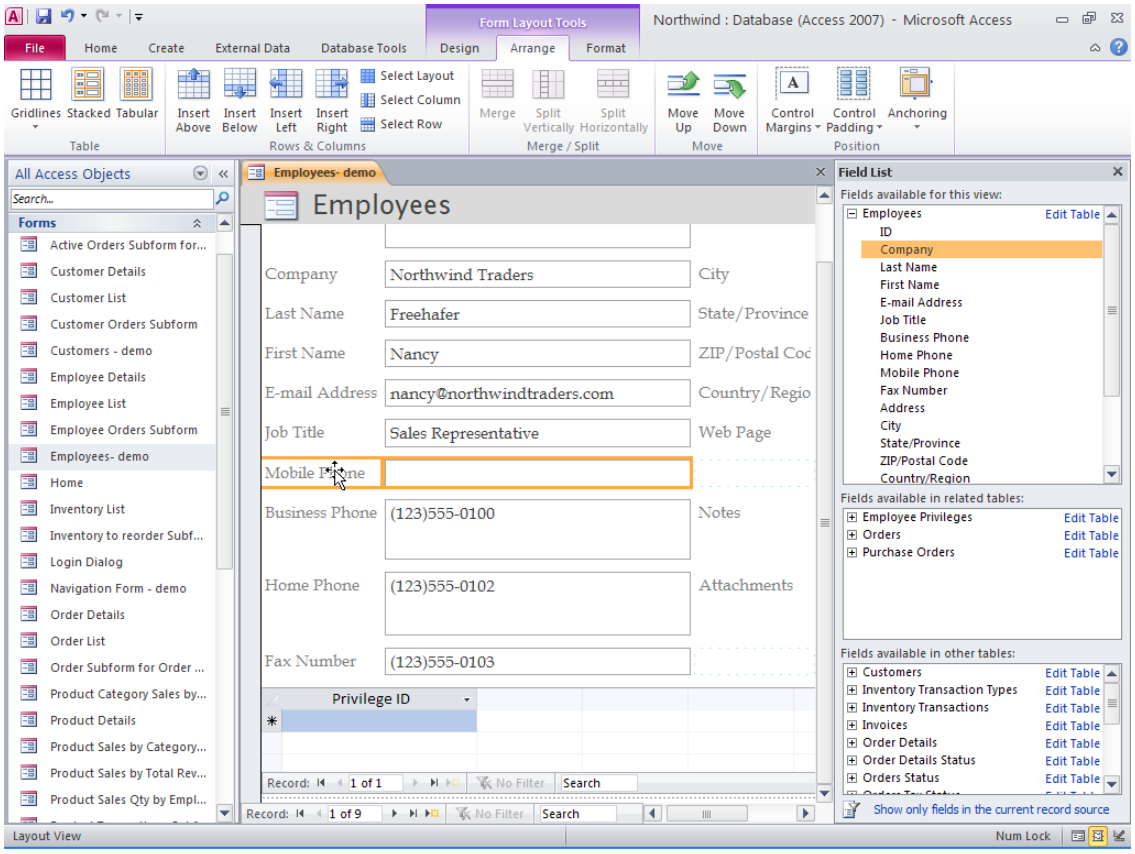
When you resize a control that is part of a layout, the other controls in the layout are also affected.

Use the following stepsto move a control on a form.

1. Select the control you want to move. Use the shift key to select more than one control at a time (such as to move a field AND its label).

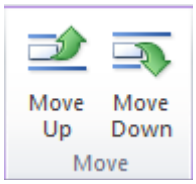
2. Drag it to the new location. A highlighted line will appear to help you position it correctly.





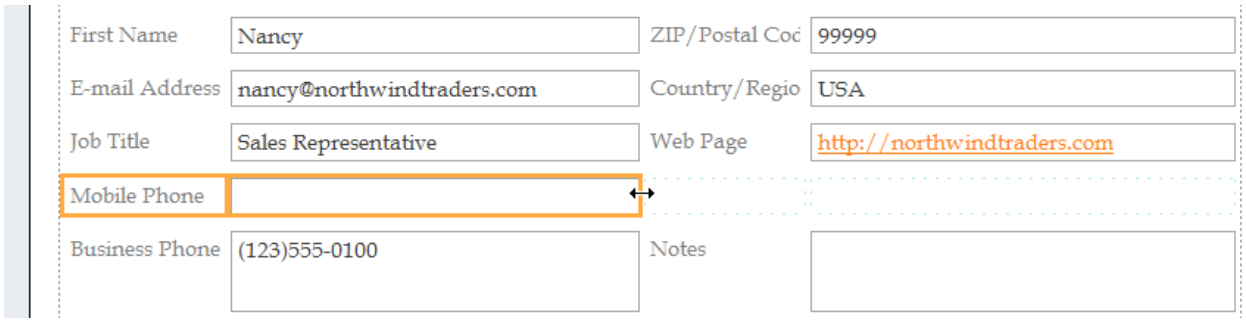
Use the following steps to move a control with the Move Up and Move Down tools on the Ribbon.

1. Highlight the control(s) you want to move.
2. Select the Move Up or Move Down tool on the Ribbon.
3.

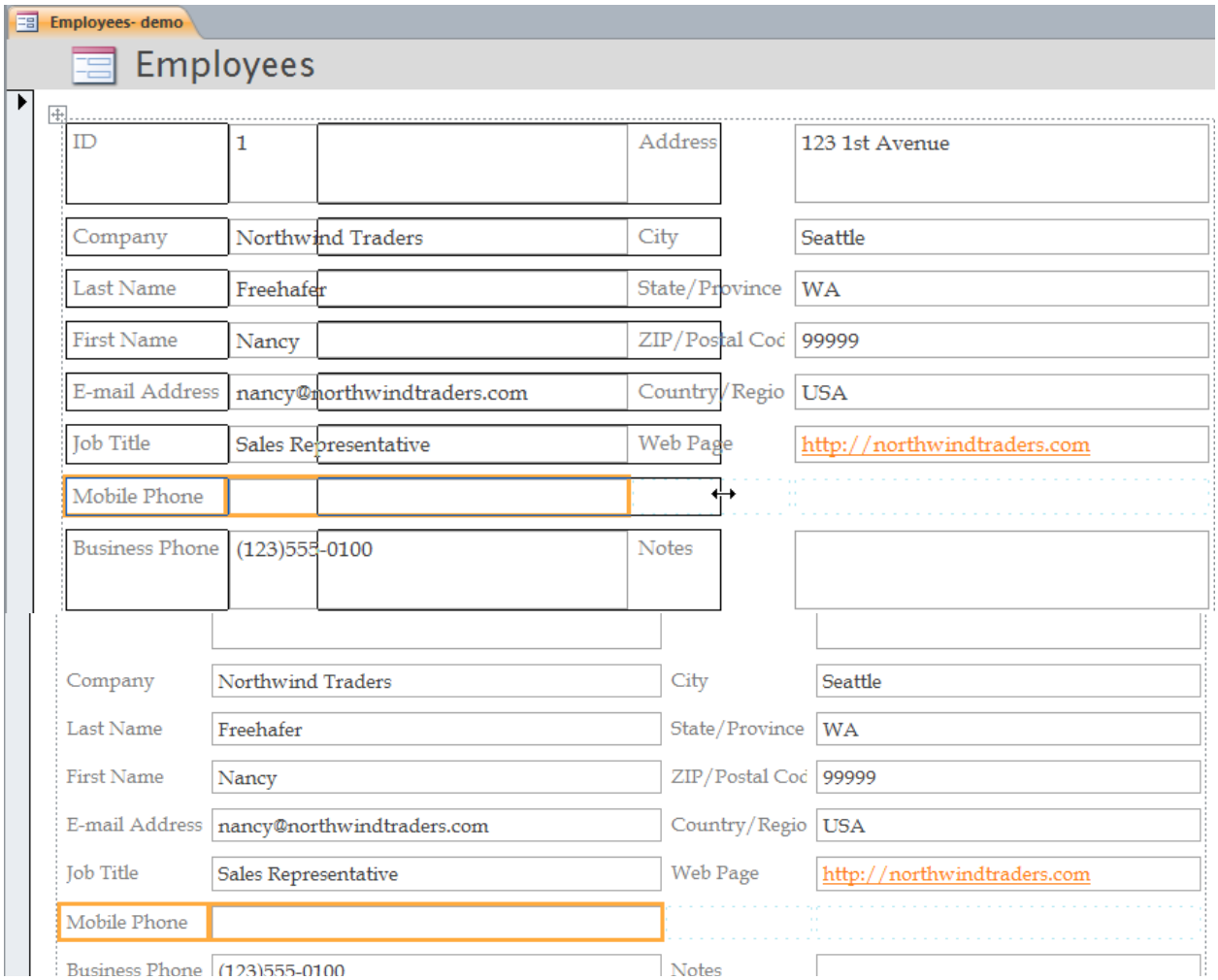


Use the following steps to resize a control.

1. Move your mouse to the border of the control you want to resize. The cursor turns into a double arrow.



2. Drag the control to the new size. The other controls in the layout are also resized.



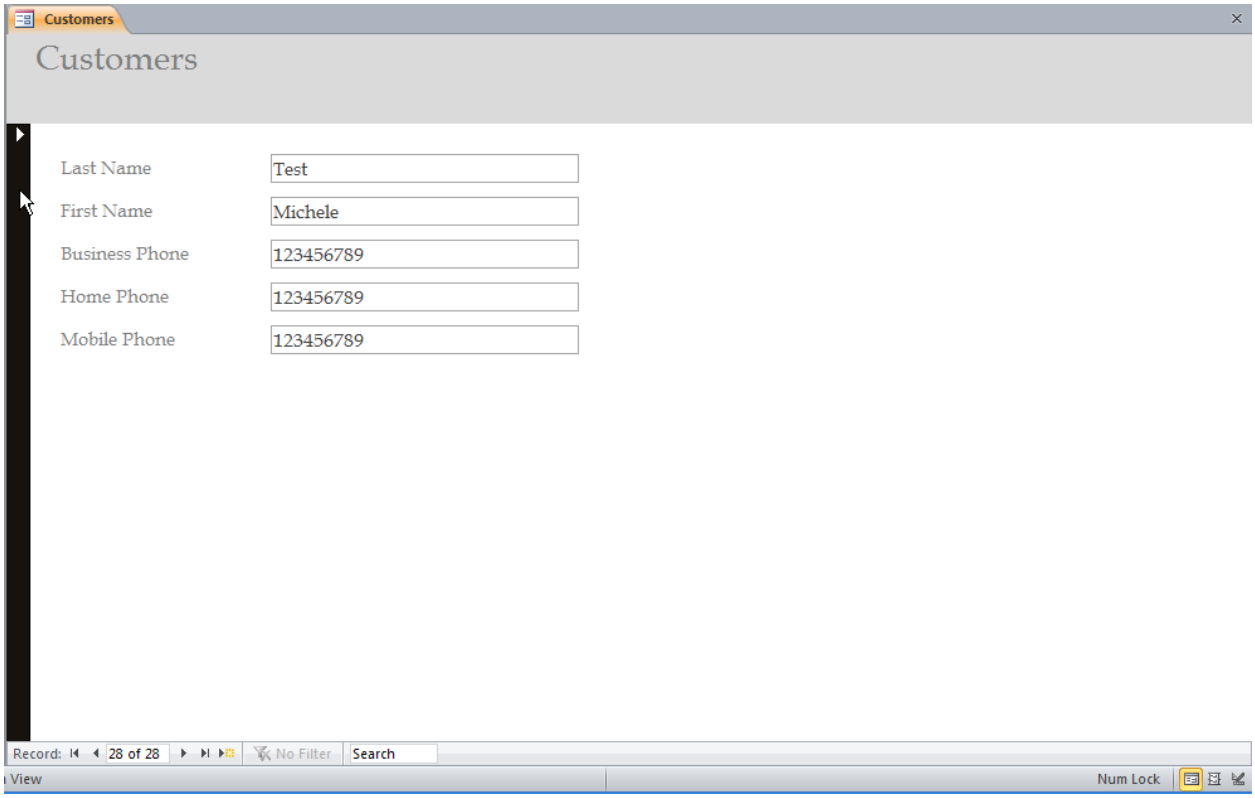
Deleting Records

Deleting records using a form is similar to deleting records from a table. You highlight the desired record and press Delete. However, Access will not allow you to delete some records, and it will display a warning message to ensure that you want to delete records that you can delete.

Use the following steps to delete a record.

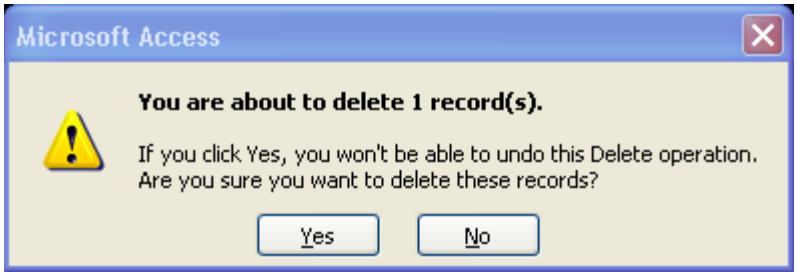
1. Make sure you are in Form view. If not, select the Form view icon in the lower right corner of the screen.

2. Highlight the arrow to the left of the record you want to delete.



3. Press **DELETE**.

If you are able to delete the message, Access displays a warning message.



4. If you are sure you want to delete the record, select **YES**.

eLearning: Introduction to Forms in Access 2010 (4 Lessons & Posttest)

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Creating Queries

Queries allow you to answer very specific questions about your data that might be difficult to answer simply by looking at table data. Queries can filter data, perform calculations, summarize data, or automate changes to your database.

Types of Queries

There are two types of queries: Select Queries and Action Queries. Action Queries are more advanced queries and are beyond the scope of this learning program. Queries incorporate many different types of questions or tasks that can be perform.

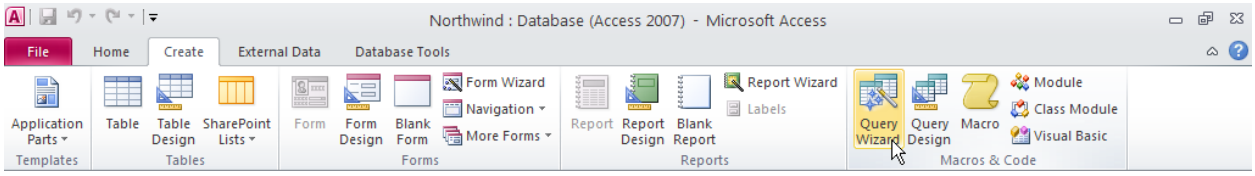
Handout 4: Creating a Query

Creating a Query with the Wizard

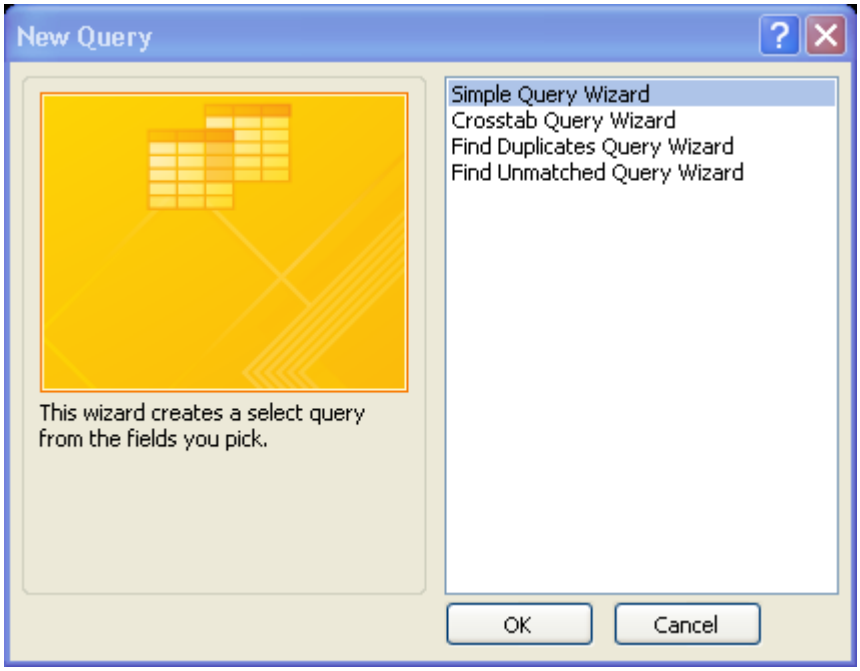
The Query Wizard allows you to easily create a new query based on the data you want to capture.

Use the following steps to use the Query Wizard to create a simple query.

- Select **QUERY WIZARD** from the **CREATE** tab on the Ribbon.

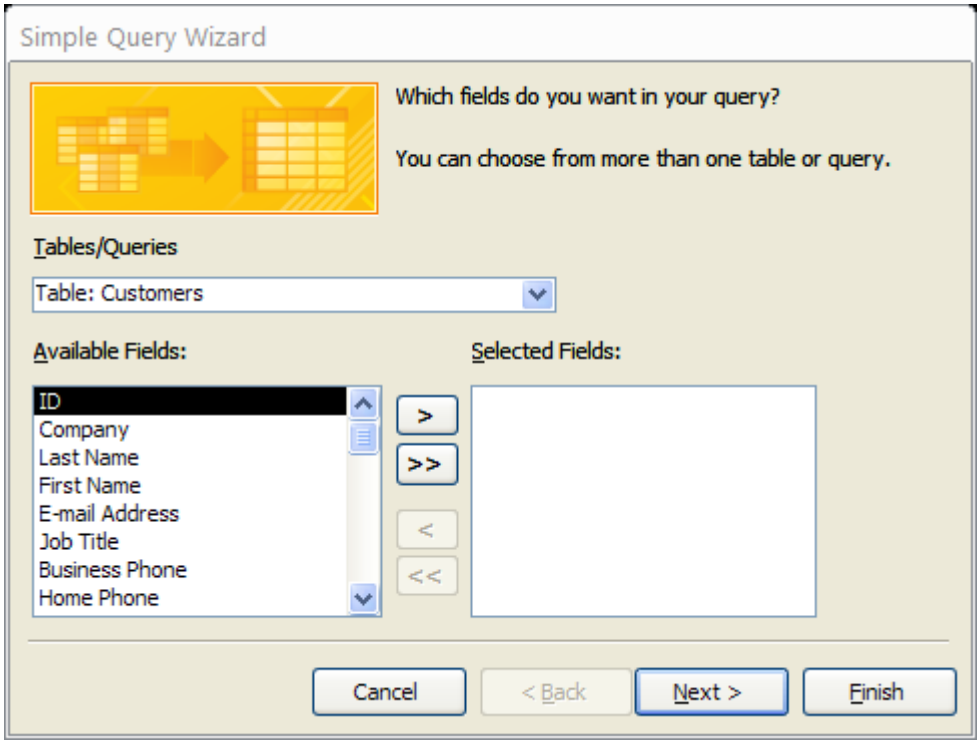


Access displays the New Query window, illustrated below.



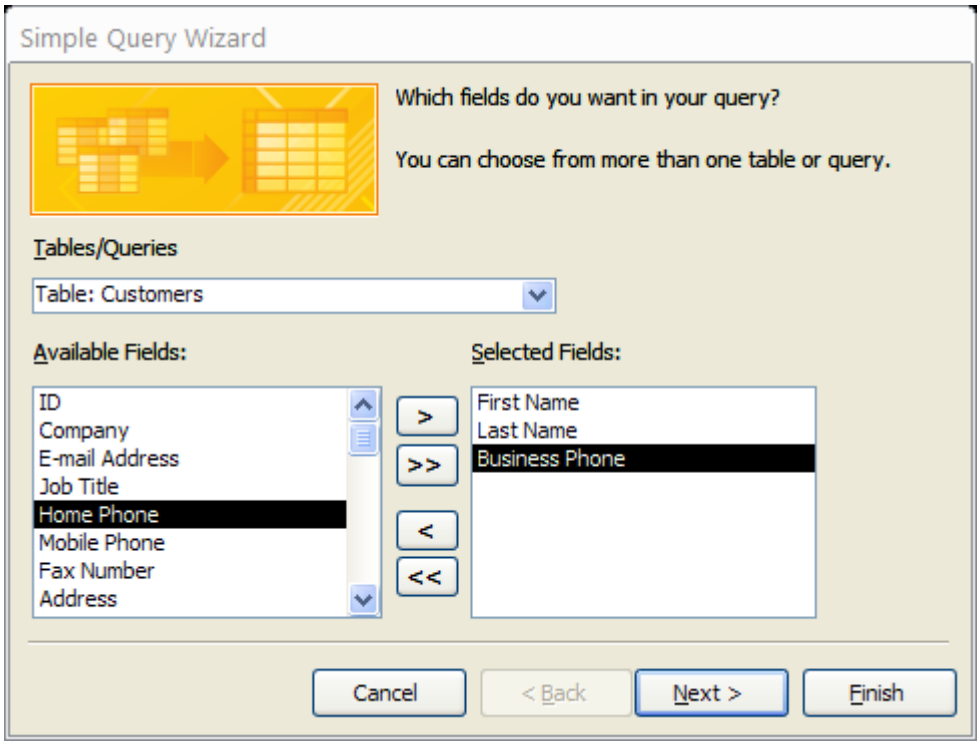
- Select **SIMPLE QUERY WIZARD** and select **OK**.

The first screen in the Wizard allows you to select the table or other query where you want to obtain the data for your query.

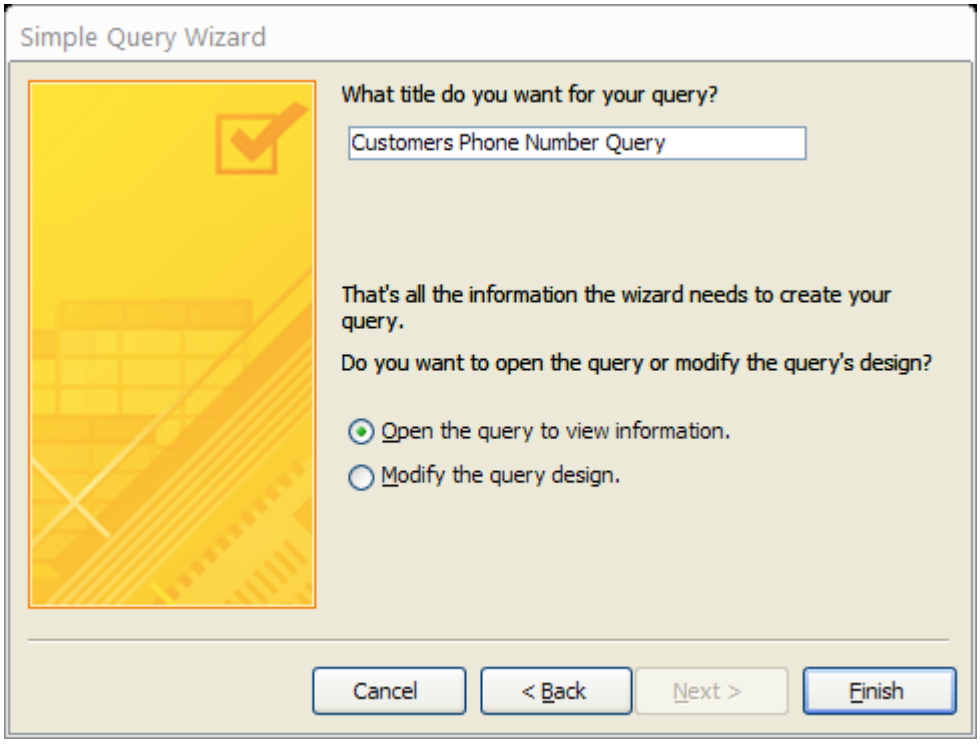


- You can select more than one table or query for the data you want on your query. If you highlighted a table in the Navigation pane before starting the query wizard, that table is selected. However, you can change it by selecting a new item from the **TABLES/QUERIES** drop down list.

- The fields available on the selected table appear in the **AVAILABLE FIELDS** column. Double-click the fields you want on your form, or highlight the field(s) and select the right arrow (or the double right arrow to select all). The items in the **SELECTED FIELDS** column will appear on your query. To remove an item from the **SELECTED FIELDS** column, highlight it and select the left arrow (or the double left arrow to remove all). To add fields from an additional table, return to step 3.
- When you have finished selecting the fields to appear on your query, select **NEXT**.

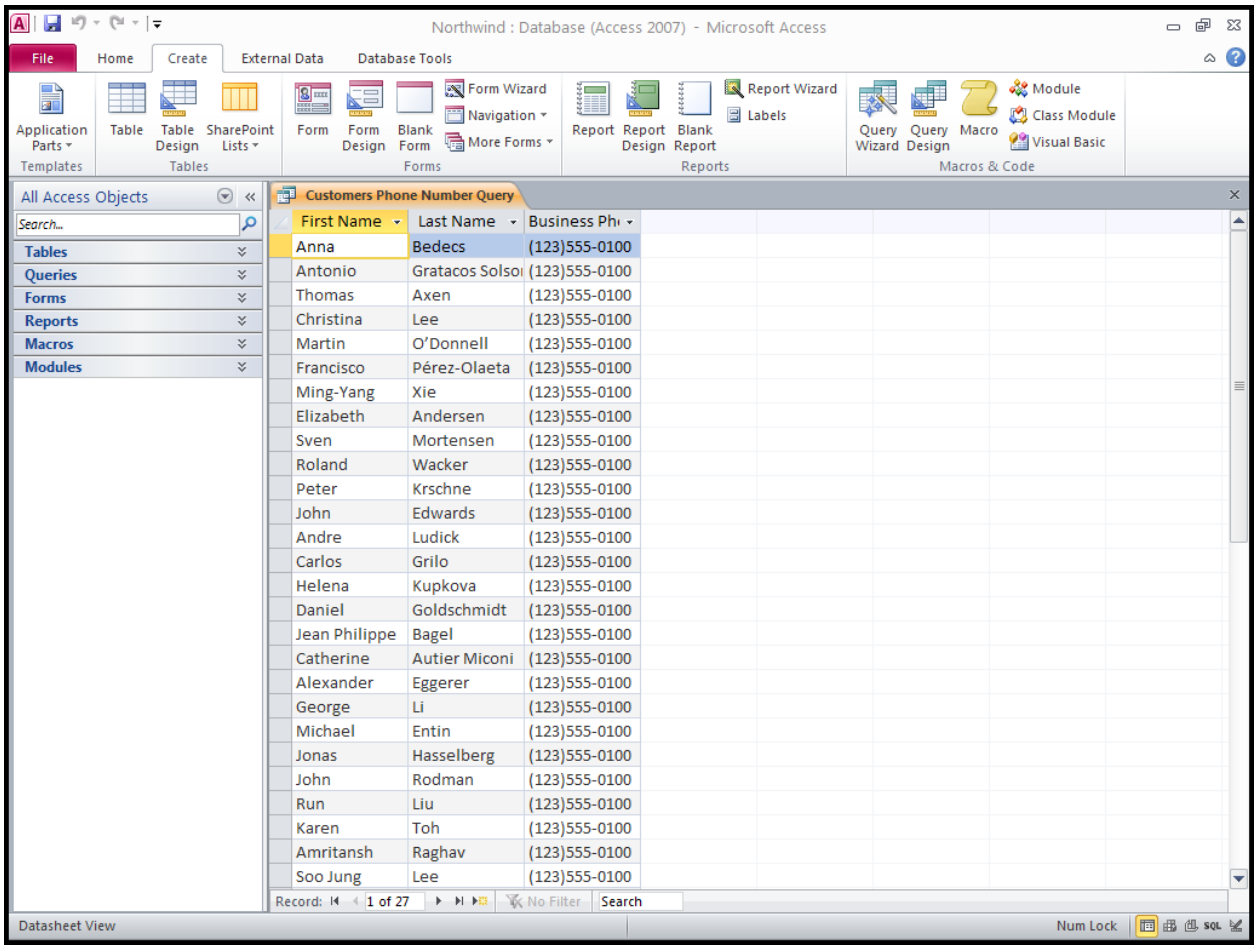


The next screen on the wizard allows you to name your query.



- Modify the default query name, if desired. Select whether to open the query to view the information, or to modify the query's design. Select **FINISH**.

A sample query is illustrated below.



Executing a Query

To execute a select query, simply double-click the query name in the Navigation pane or select the query name in the Navigation pane and press **ENTER**.

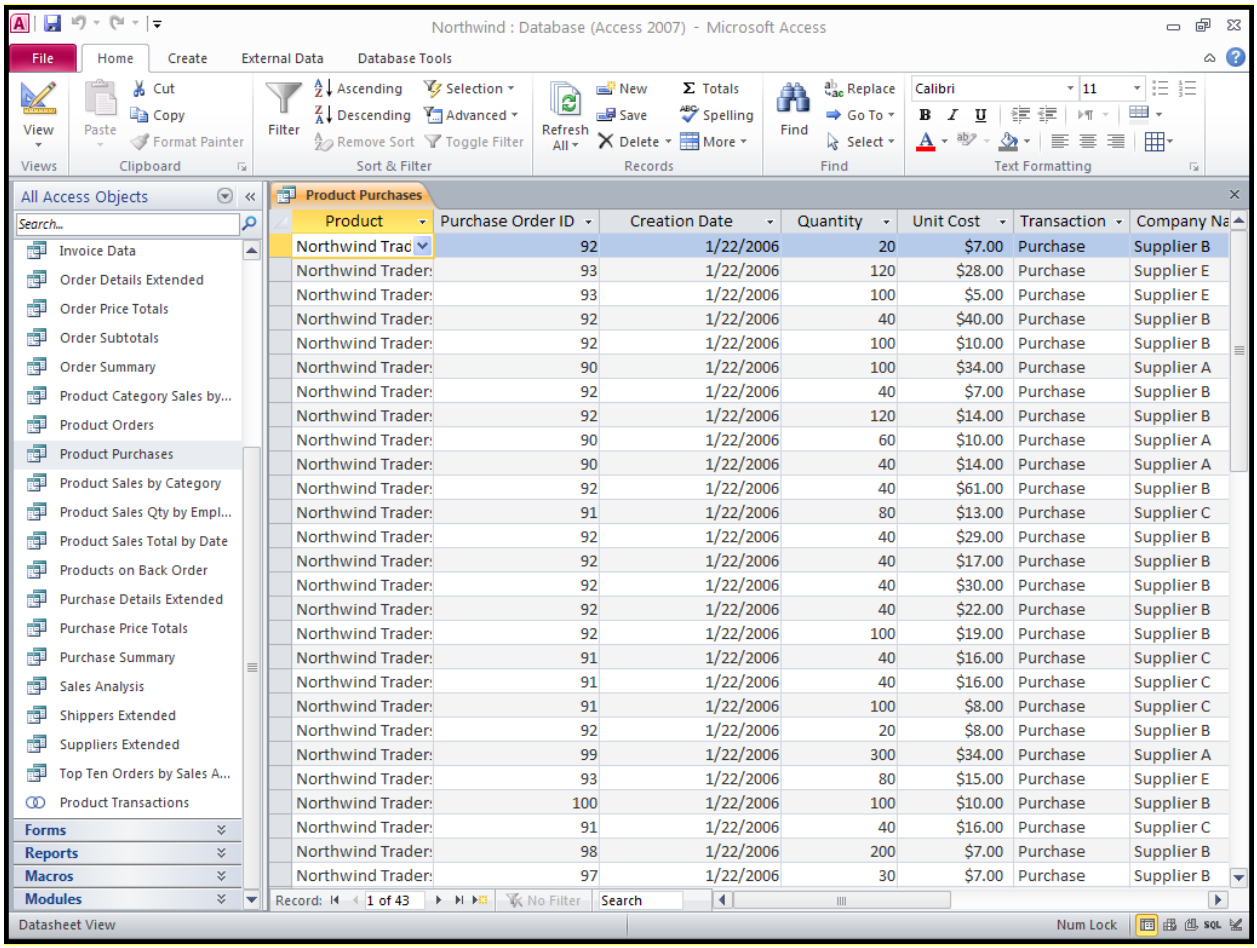
Action queries cannot easily be undone. Therefore, before executing an action query:

- Save a fresh backup of your database, in case you need to restore it.
- Preview the query as a select query or in datasheet view before executing it.

Then execute it as you would a select or crosstab query.

Most of the queries in the sample database are select queries. Open a query in design view, change the query to an action query, and execute the query. The Product Purchases query is used in the following example. Use the following procedure.

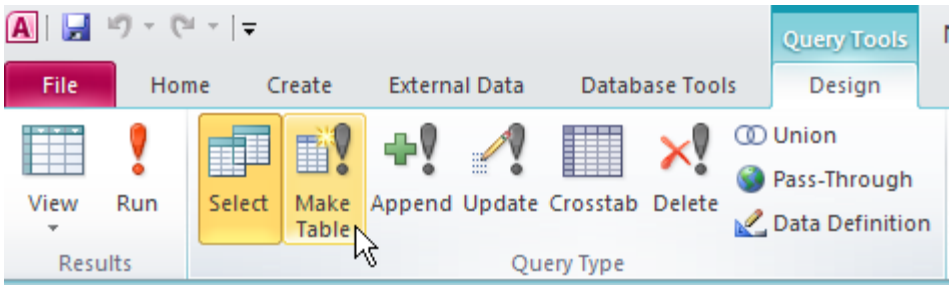
1. Execute a select query by double-clicking on it in the Navigation pane.



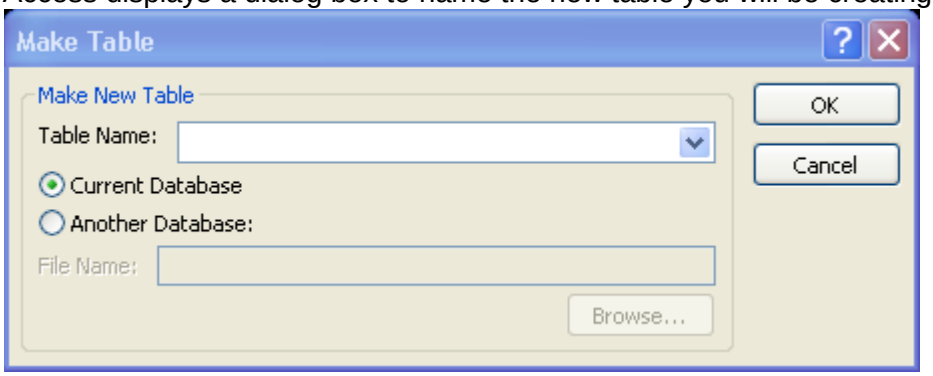
If the results look acceptable, you are ready to change to a Make Table query, which will create a new table with the data.

2. Switch to Design View of the query by clicking the Design View icon in the lower right corner of the window. We'll talk more about this view in the next topic of this module.

3. Select the **Make Table** tool from the Ribbon.

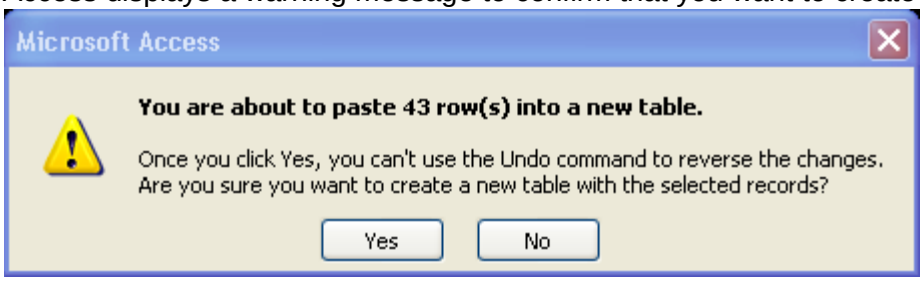


Access displays a dialog box to name the new table you will be creating with the query.



4. Enter the Table Name. You could choose one of the options from the drop down list to overwrite that table, or enter a new table name.
5. Select whether to save the new table in the Current Database or Another Database. If you choose Another Database, use Browse to navigate to the database.
6. Select **OK**.
7. Select the **Run** tool from the Ribbon.

Access displays a warning message to confirm that you want to create a new table.



8. Select **Yes** to continue.

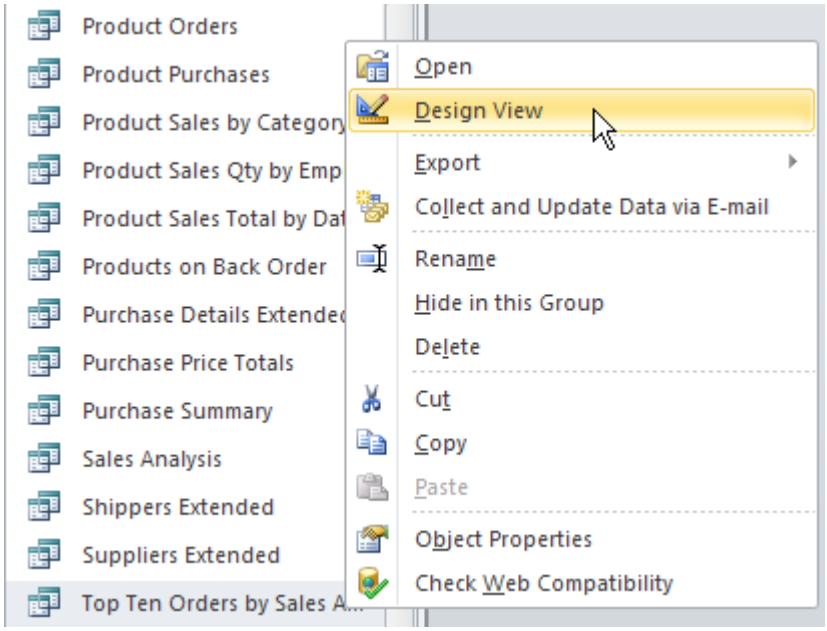
The table is now available from the Navigation Pane.

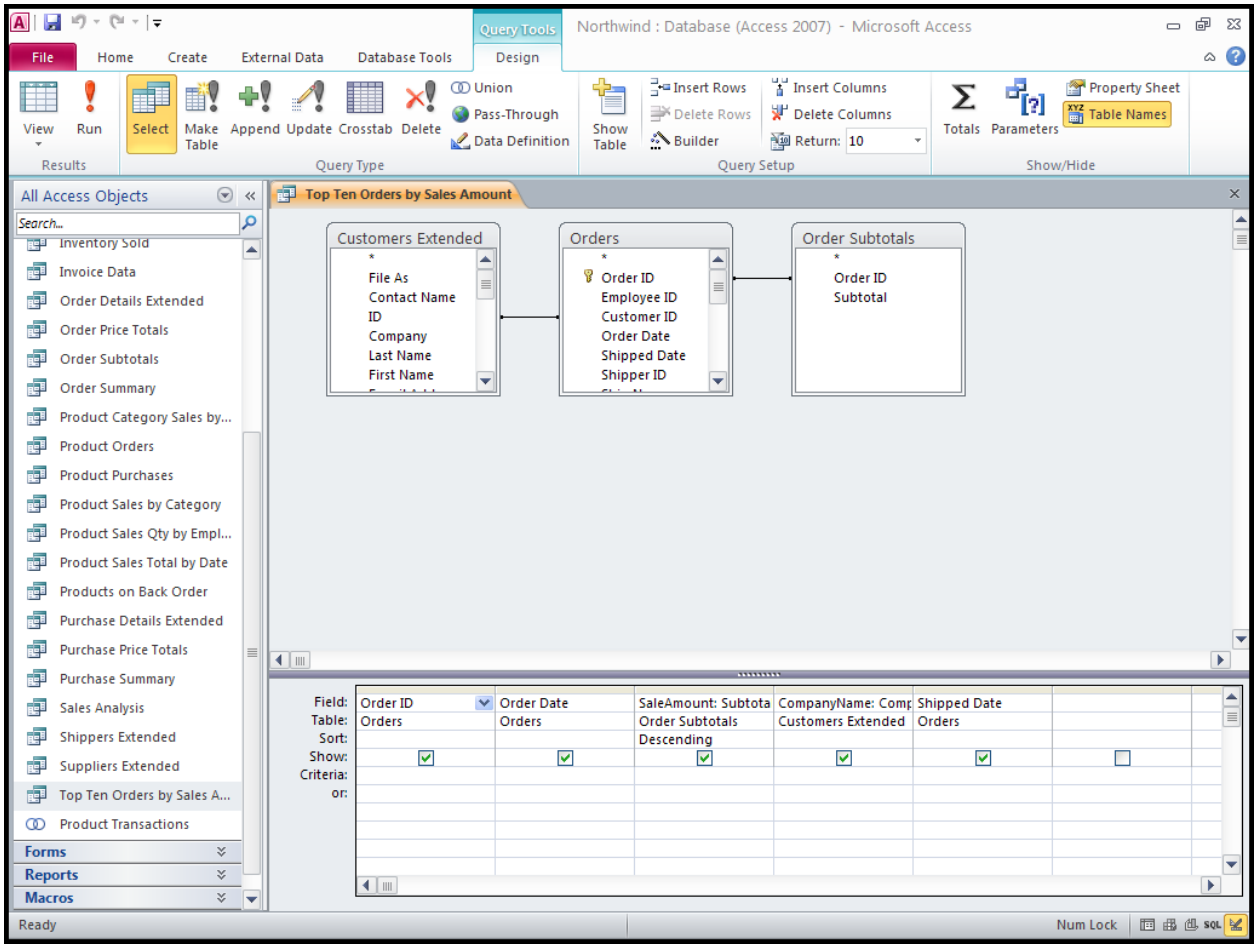
Viewing the Query

As with tables and forms, you can view your query in datasheet and design view. Datasheet view shows the results of an executed query. Design view allows you to modify and customize your query.

The sample query “Top Ten Orders by Sales Amounts” is used in this example.

1. Right click on the query name in the Navigation Pane and select **Design View** from the context menu.



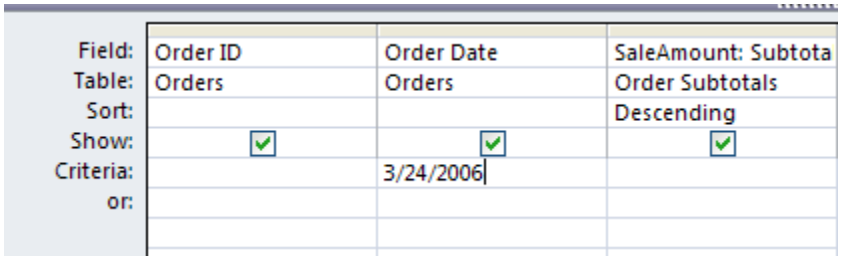


The top half of the window shows that tables from which data from the query originates. The lines between tables are the Join Lines. These are drawn between fields that show how tables are related. The bottom half of the window allows you to design the query.

- The Table row includes the tables that are shown in the top portion.
- The Field row includes the fields from the selected table.
- The Sort row allows you to sort the data in the selected field in ascending or descending order.
- The Show box allows you to show or hide the selected field.
- The Criteria field allows you to specify only data that matches the selected criterion. Or you can enter a prompt to make a flexible query you can rerun for different criterion.

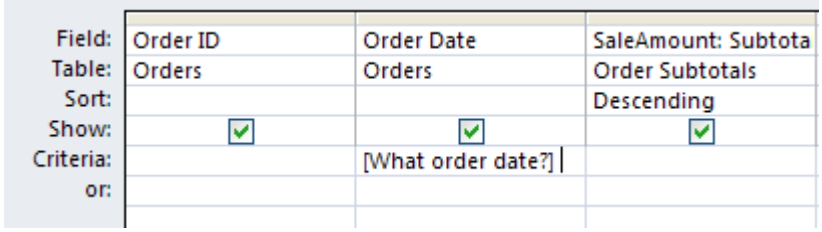
Use the following stepsto enter a criterion. In this example, we will limit the query to orders from 3/24/2006.

1. In the field Order Date, enter 3/24/2006 in the criteria row.

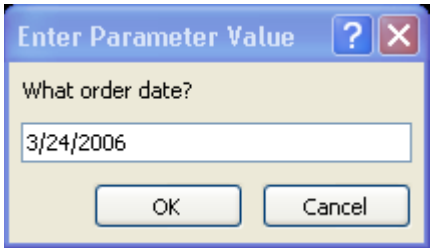


In this example, we will ask for an order date.

2. In the field Order Date, enter [What order date?] in the criteria row. The square brackets indicate that you will require the query user to enter a parameter.



When you execute the query, Access displays the Enter Parameter Value window. A sample is illustrated below.

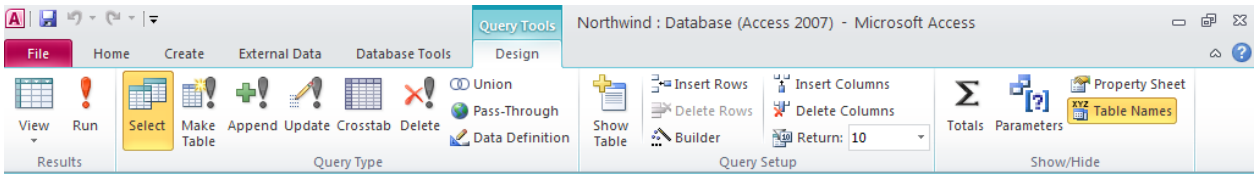


3. Enter the value you want to use for the criterion and select **OK**.

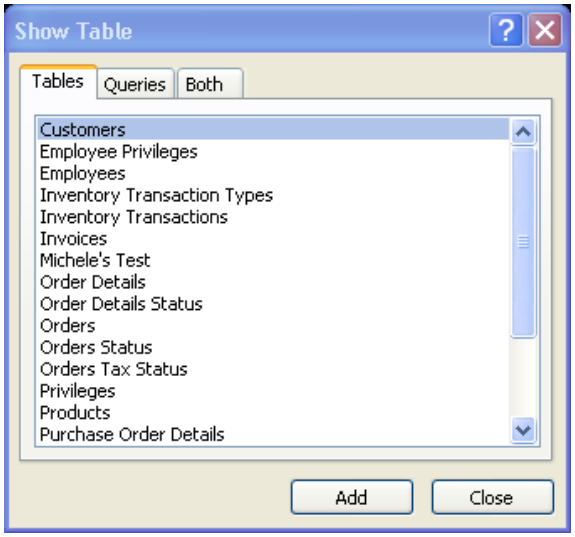
Key Features on the Query Tools Tab

The Query Tools Design tab includes View and Run tools to see the results of your query. It also includes tools for the different types of queries. You can easily use these tools to switch from a select query to an action query or from an action query to a select query. The Query Setup group and the Show/Hide groups include tools to help design your query.

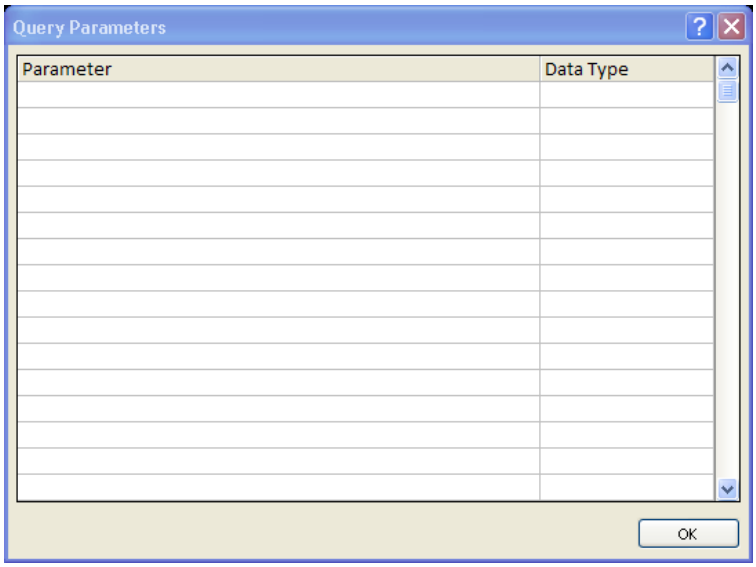
Query Tools Design tab.



Show Table window.



Parameters window.



eLearning: Introduction to Queries in Access 2010 (4 Lessons & Posttest)

Follow the steps below to complete the above eLearning requirements.

Step 1: Logon to Accelerate
Step 2: Click the My Plan tab (on left)
Step 3: Click the *Access 2010 Blended Learning Program* folder
Step 4: Complete the assignments as noted above

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Running Reports

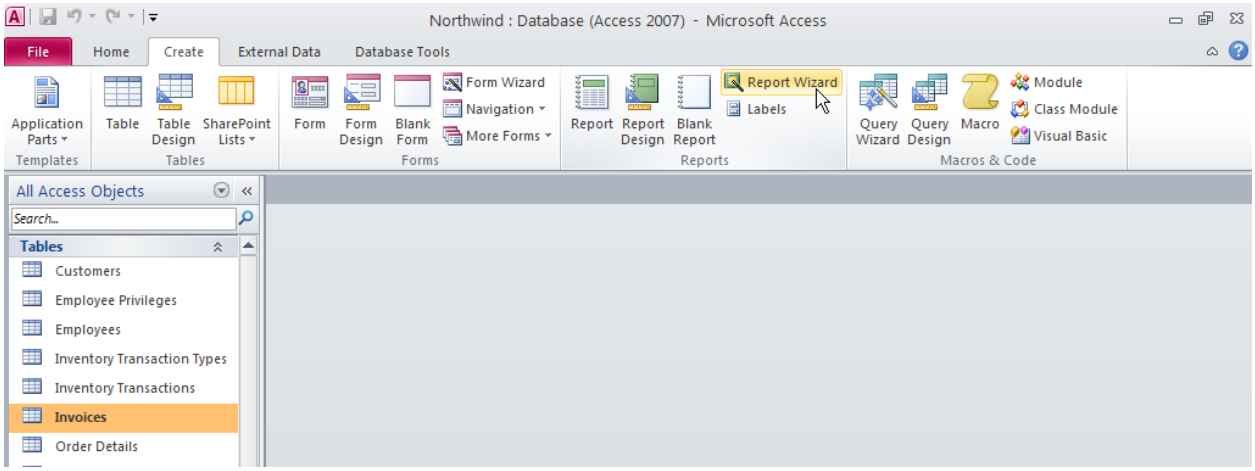
Reports allow you to make sense of your data. You can create a report using a wizard or in design view. This module also explains how to add a logo and work with controls, and it explains the key report tab tools.

Using The Report Wizard

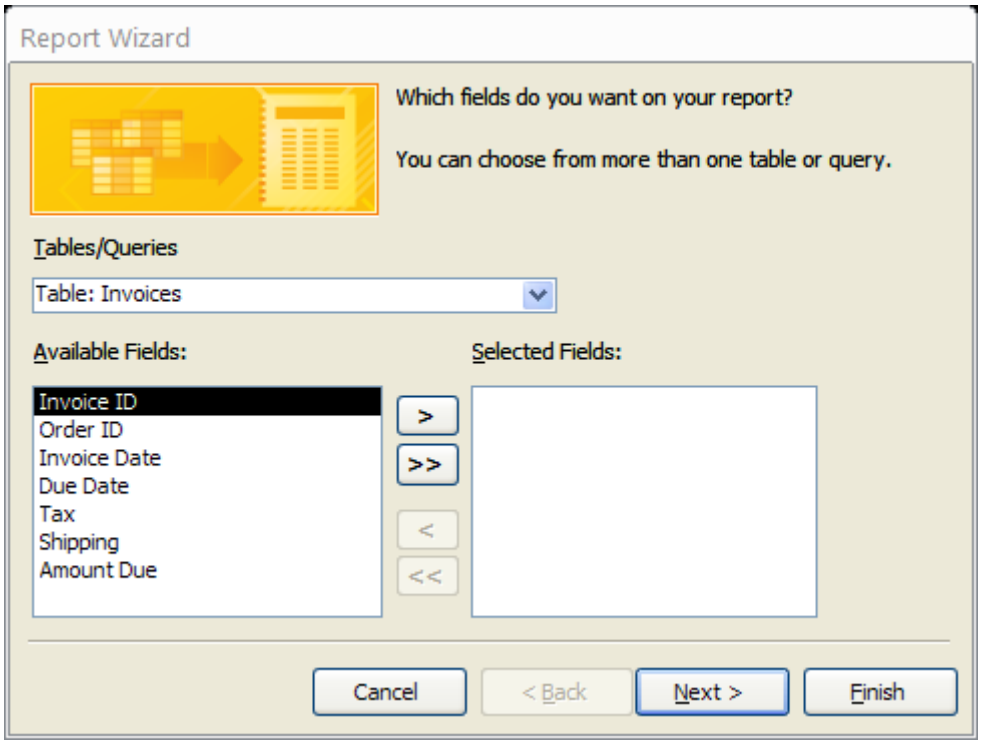
The Report Wizard allows you to easily create a new report based on the data you want to capture. The Invoices table is used in this example. Use the following steps to create a report using the Report Wizard.

1. In the Navigation pane, highlight the table (or query) data that you want to use in your report.

2. Select **REPORT WIZARD** from the **CREATE** tab on the Ribbon.

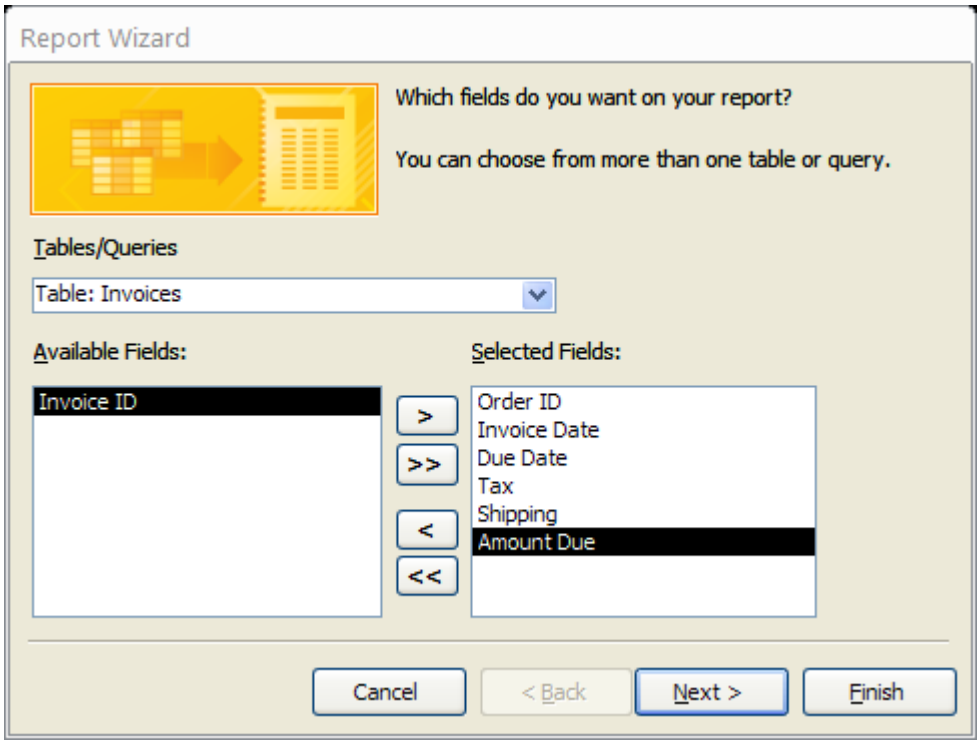


Access opens the Report Wizard.

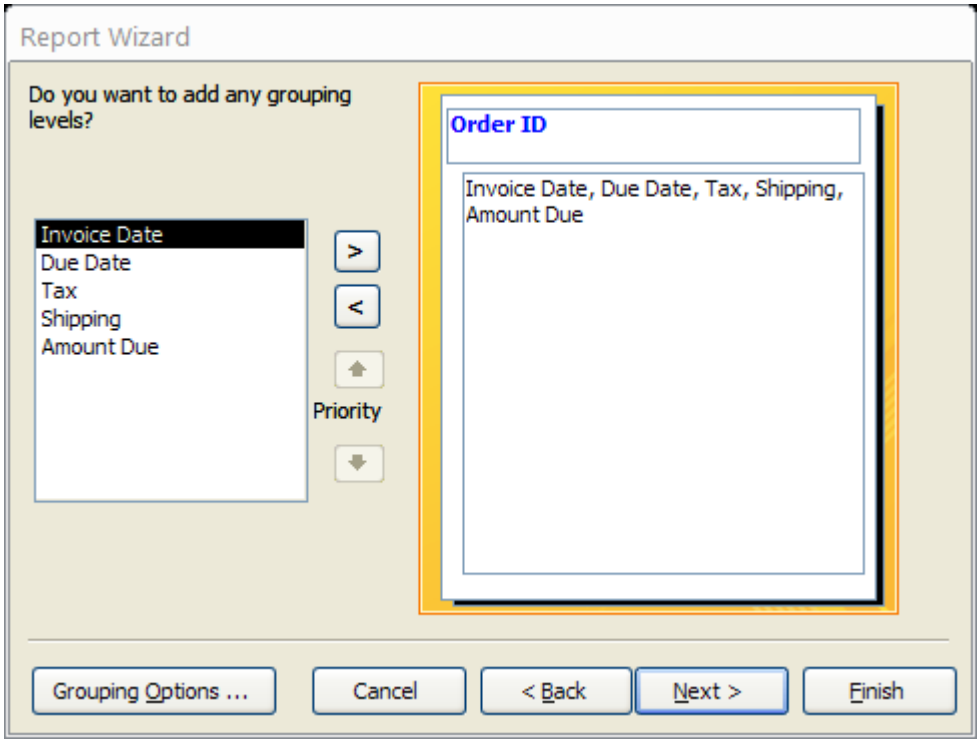


3. You can select more than one table or query for the data you want on your report. The table you highlighted in the Navigation pane is selected, but you can change it by selecting a new item from the **TABLES/QUERIES** drop down list.

4. The fields available on the selected table appear in the **AVAILABLE FIELDS** column. Double-click the fields you want on your report, or highlight the field(s) and select the right arrow (or the double right arrow to select all). The items in the **SELECTED FIELDS** column will appear on your report. To remove an item from the **SELECTED FIELDS** column, highlight it and select the left arrow (or the double left arrow to remove all). To add fields from an additional table, return to step 3.
5. When you have finished selecting the fields to appear on your report, select **NEXT**.

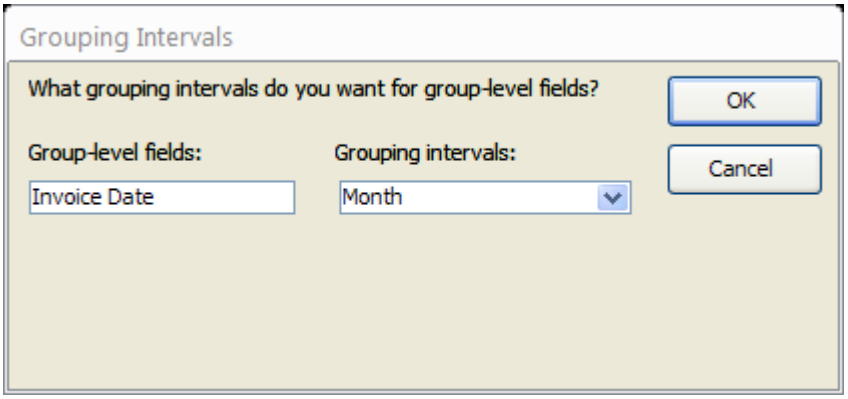


The next screen on the wizard allows you to group the information on your report. Groups allow you to separate records visually. A group includes introductory and summary information, the detail records, and footer.



6. Select one or more of the controls to add a grouping level. The right arrow adds the grouping level. The left arrow removes a grouping level. The Priority arrows allow you to rearrange the levels if you have selected more than one control for grouping.

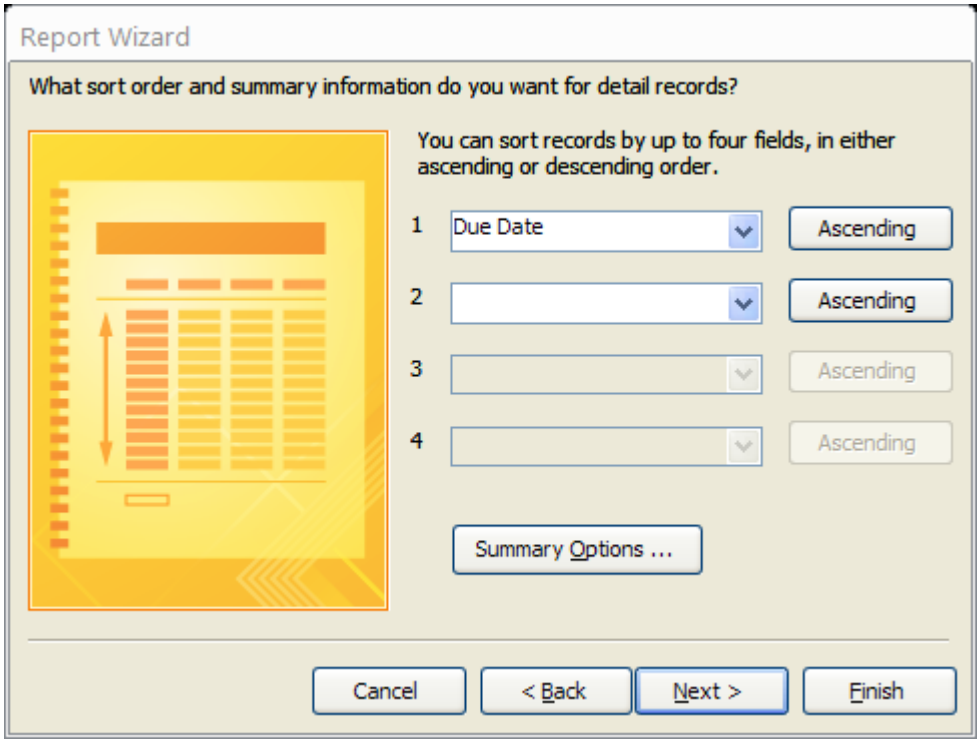
    a. The **GROUPING OPTIONS** button opens a new window, which differs, depending upon the type of control for the selected grouping option. A sample is illustrated below.



    b. Select an appropriate Grouping interval from the drop down list and select **OK**.

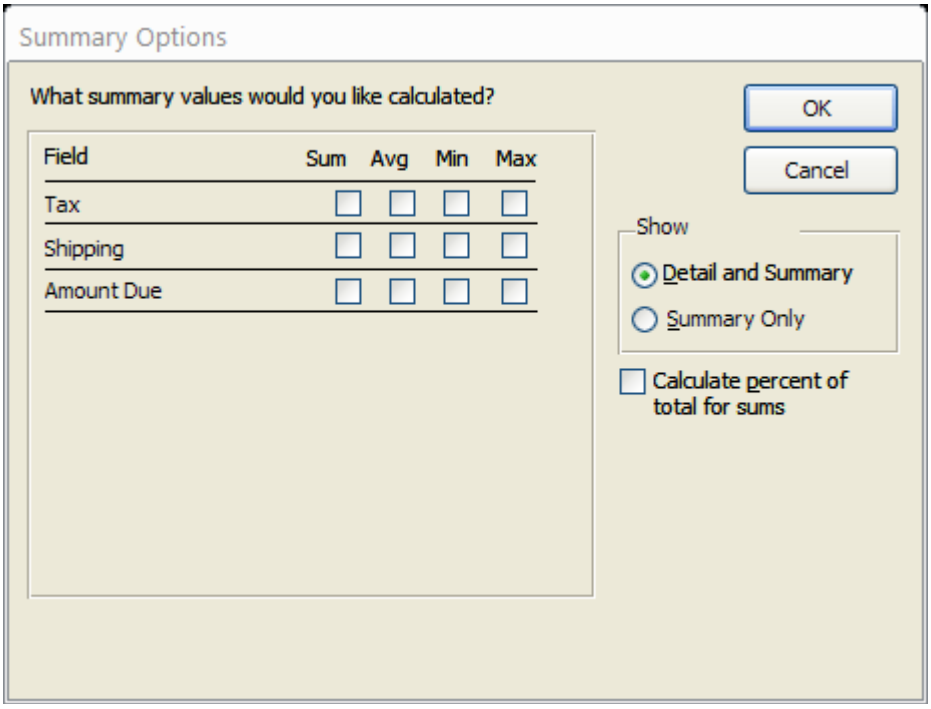
7. Select **NEXT** on the Report Wizard.

The next screen on the wizard allows you to choose the sort order for your data.



8. Select up to four fields for sorting and select either **ASCENDING** or **DESCENDING** for the order.

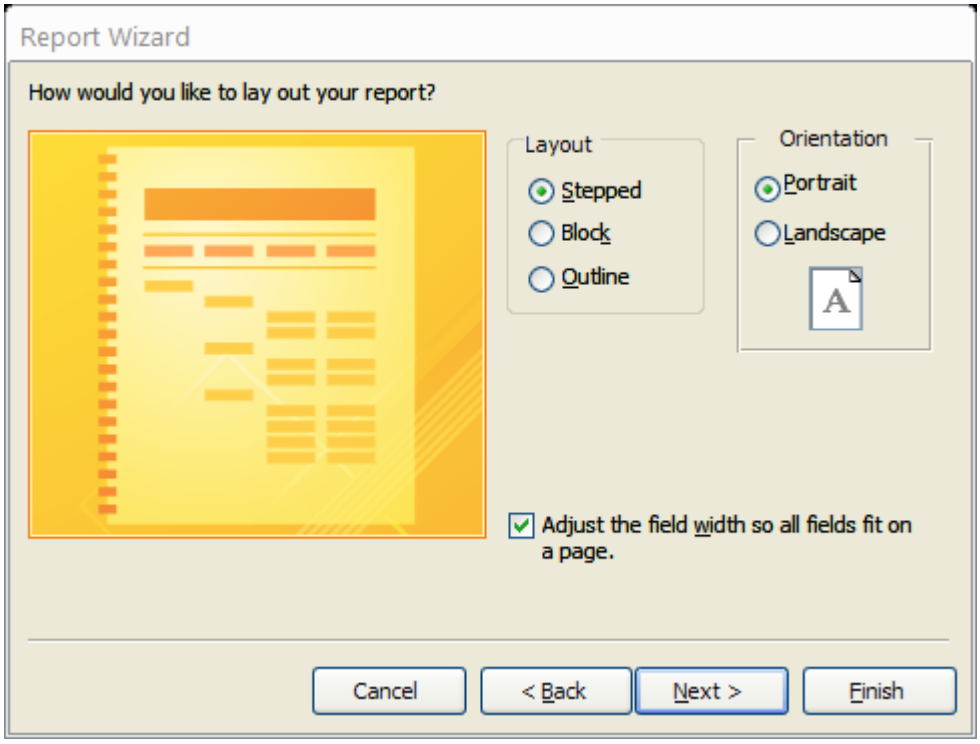
a. The **SUMMARY OPTIONS** button opens a new window, which differs, depending upon the type of controls on the report. A sample is illustrated below.



b. You can choose Summary, Average, Minimum, or Maximum values to be calculated. You can choose whether to show detail and summary or just summary. You can also calculate a percent of total for all sums. When you have finished setting the summary options, select **OK**.

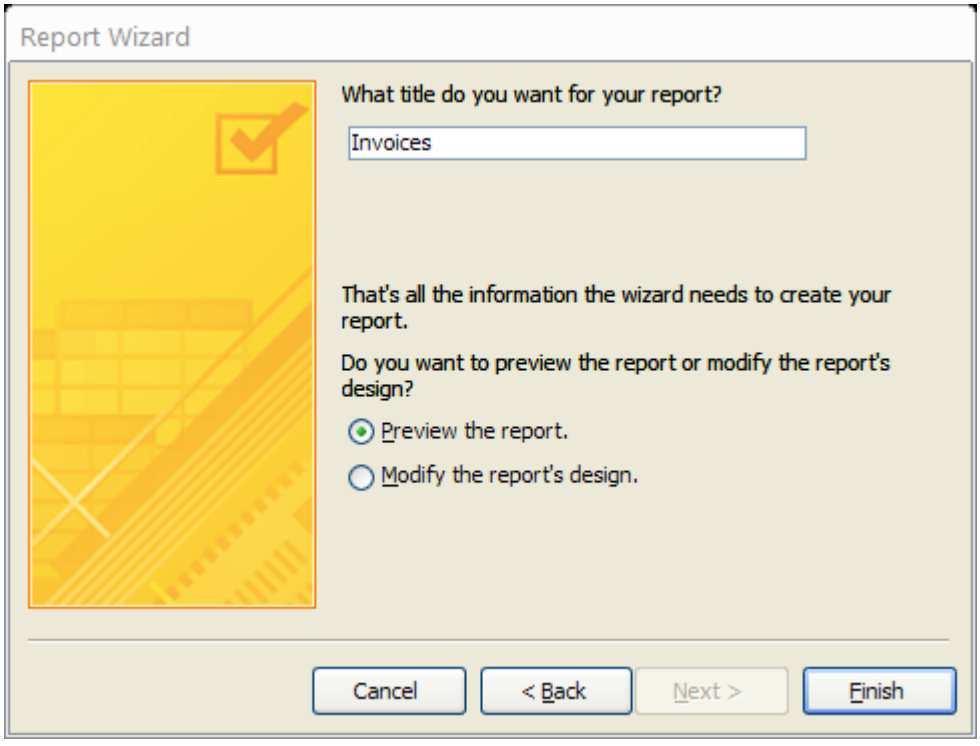
9. Select **NEXT** on the Report Wizard.

The next screen on the wizard allows you to select from a list of layout and orientation options.



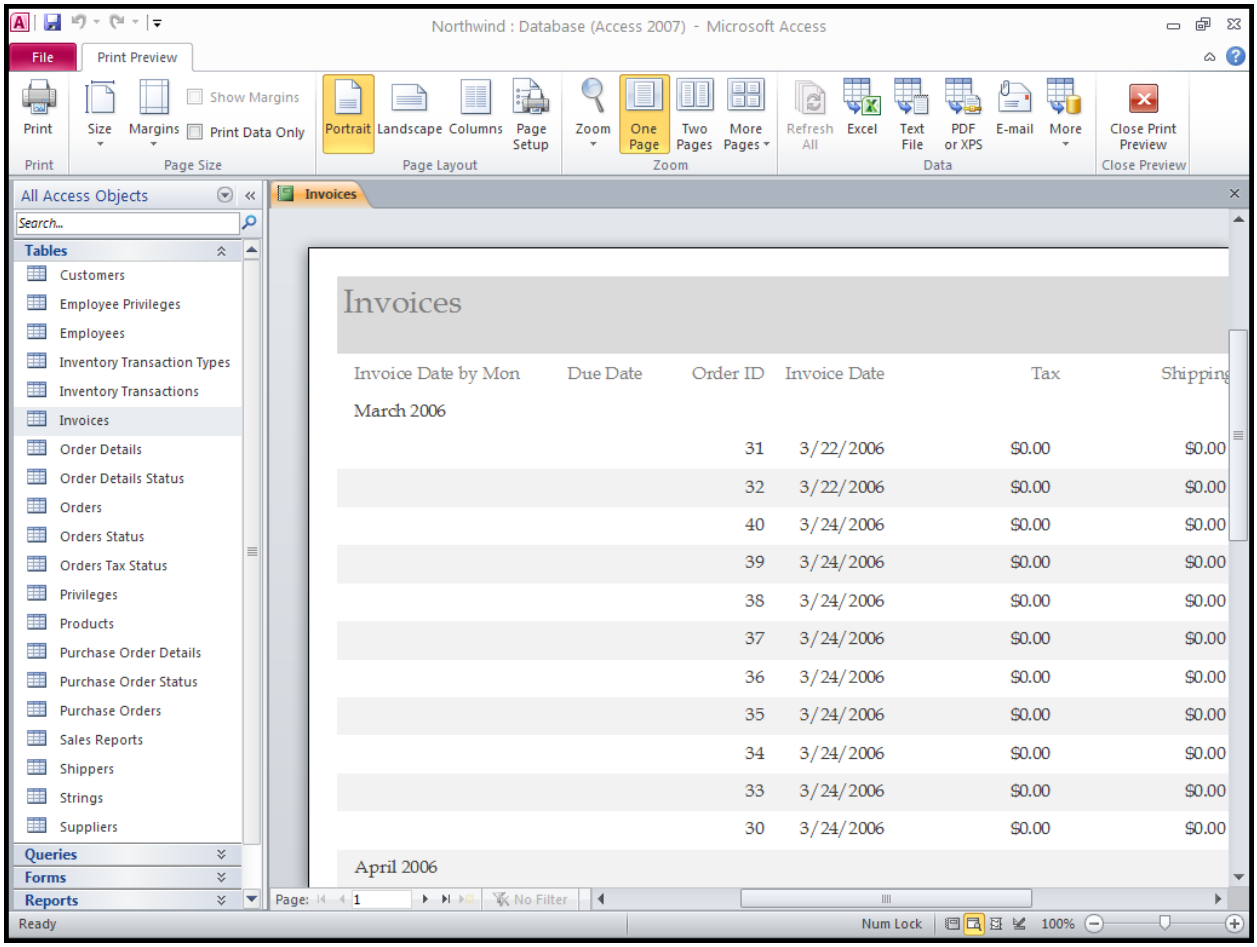
10. Select a Layout option and an Orientation option. Check the **ADJUST THE FIELD WIDTH SO ALL FIELDS FIT ON A PAGE** box if desired. Select **NEXT**.

The final screen of the wizard allows you to name your report.



11. Verify the default name, or enter a new name for the report.
12. Select whether you want to open the report, or if you want to modify the report's design.
13. Select **FINISH**.

Access opens the report in Print Preview. A sample report is illustrated below.

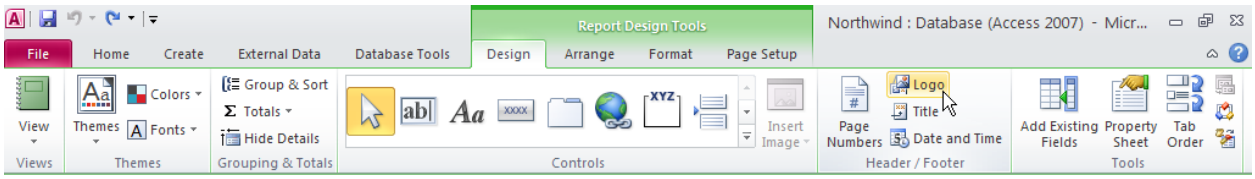


Adding a Logo

You can easily add a picture, such as a company logo, to a report.

Use the following stepsto add a logo to a report.

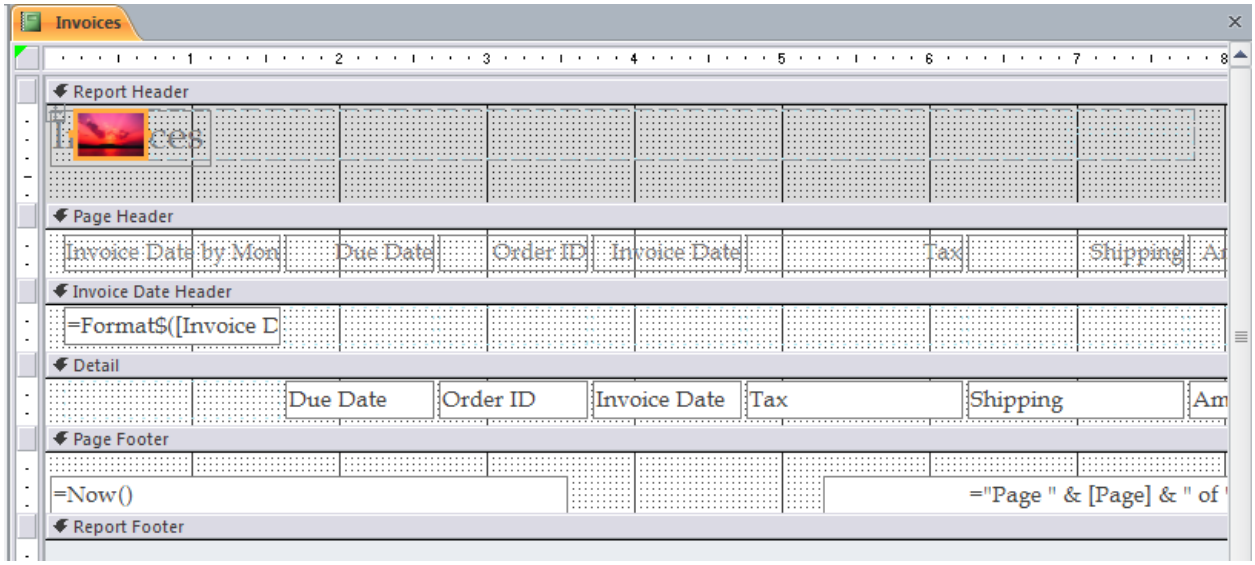
1. Select Logo from the **REPORT TOOLS DESIGN** tab of the Ribbon.



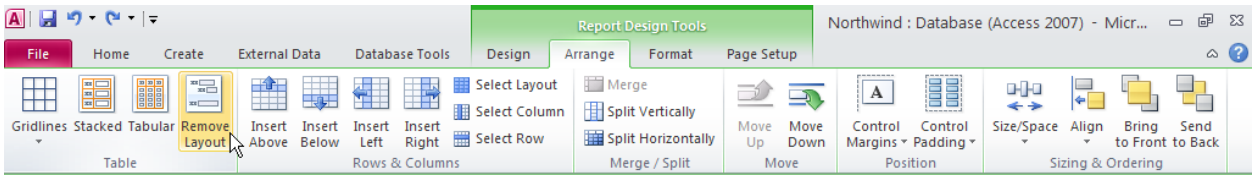
Access opens an Insert Picture dialog box. It opens to your My Documents folder by default.

2. Navigate to the picture file you want to use for the logo and select **OK**.

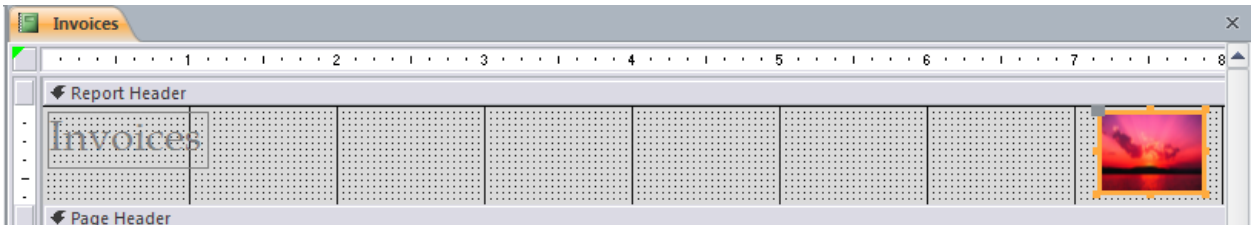
Access adds the logo to the report header by default. The orange border shows the picture is selected.



3. The Report Header is in a layout. You may want to remove the layout so that you can move the logo. Select the Arrange tab. Select the Remove Layout tool



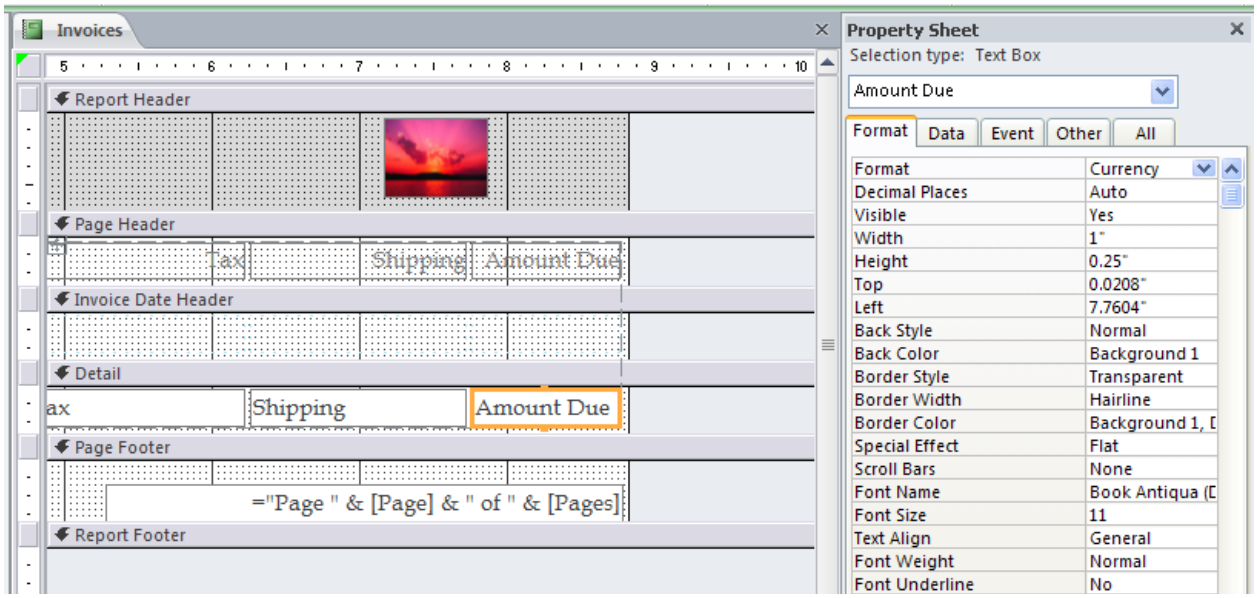
4. Move the logo to the desired location by clicking and dragging it. You can also resize it using the orange border and handles around the picture.



Working with Controls

The controls on a report are very similar to controls on a form. One difference is that there are headers for each page of a report, and if you selected a grouping option, there are headers for each grouping. The headers are connected to the detail controls and will move along with any detail controls you move, add, or delete.

The following example illustrates the Format Options for the “Amount Due” control on the Inventory report created earlier in this module. Point out the different types of things that can be controlled using the Property Sheet.



eLearning: Introduction to Reports in Access 2010 (4 Lessons & Posttest)

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Managing Your Database

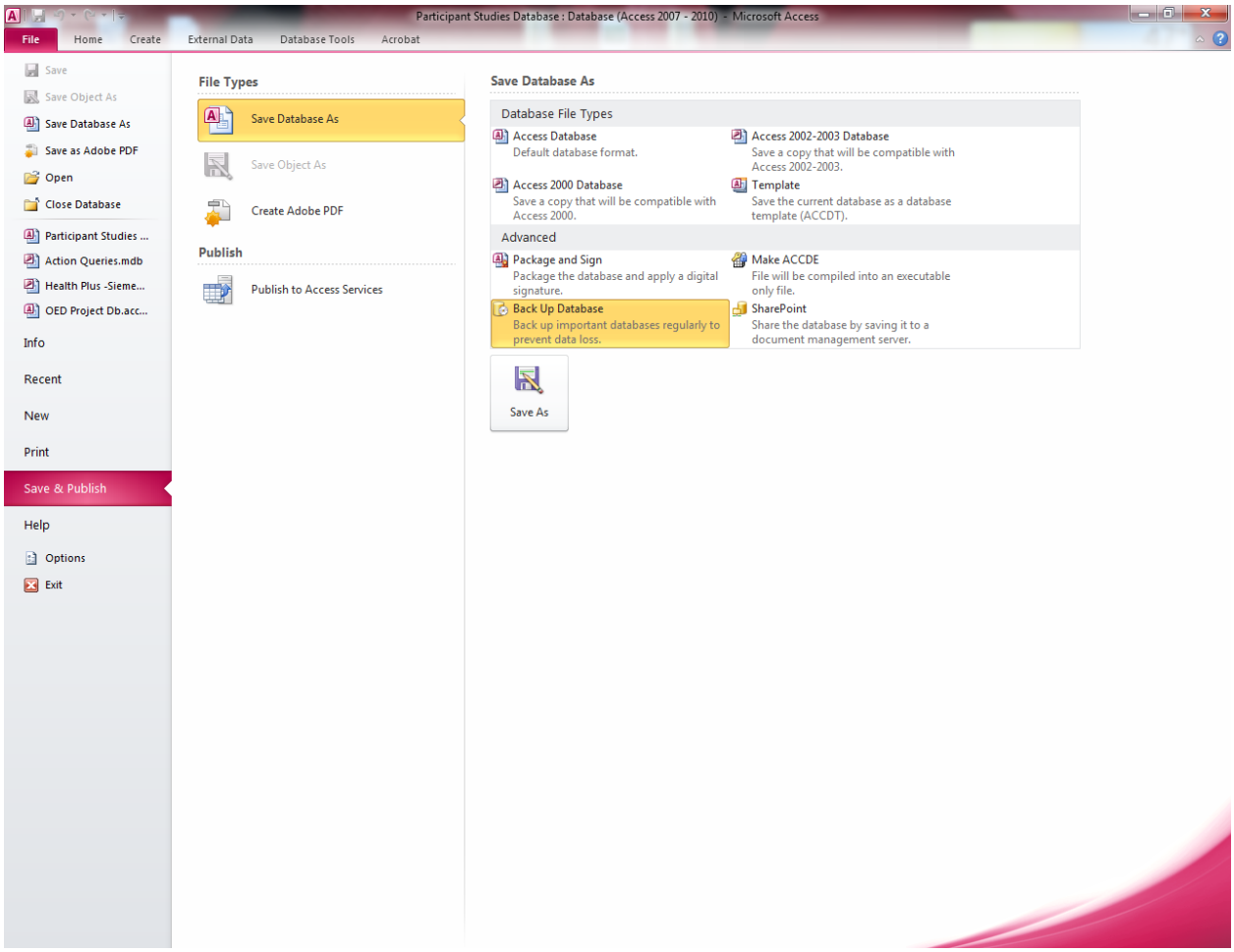
This section covers some of the basics of managing your database, such as saving it as another format, printing an object, emailing the database, and backing up your database.

Backing Up Your Database

If you are experimenting with your database, or making changes that are difficult to undo (such as executing an action query), you should make a backup of the database first. A backup saves a copy of the database.

1. Select the **FILE** tab to open the Backstage View. Select **SAVE & PUBLISH**.

2. Select **SAVE DATABASE AS**. Select the **BACK UP DATABASE** option.



Access displays the Save As dialog box.

3. Access provides a default file name that includes the name of the original database and the date of the backup. If you must change this, enter the file name for the copy of the database.

4. Select **SAVE**.

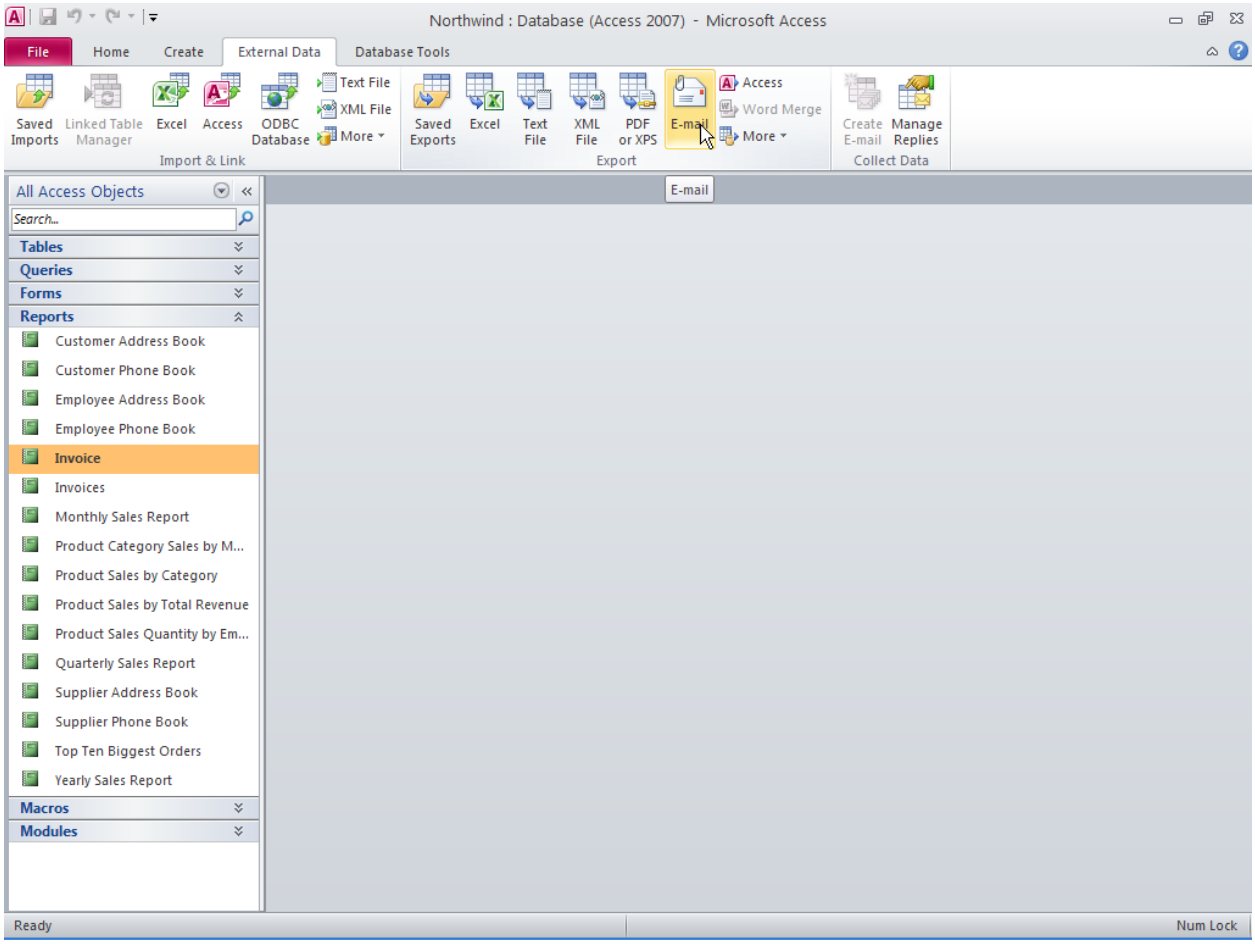
Emailing Database Objects

Access 2010 includes the sharing tool Access Services if you and your coworkers are connected to a SharePoint server and are all using Access. But how do you get information to someone else if you are not using Access Services or Share port? You can email an object from the database in another format to share the information.

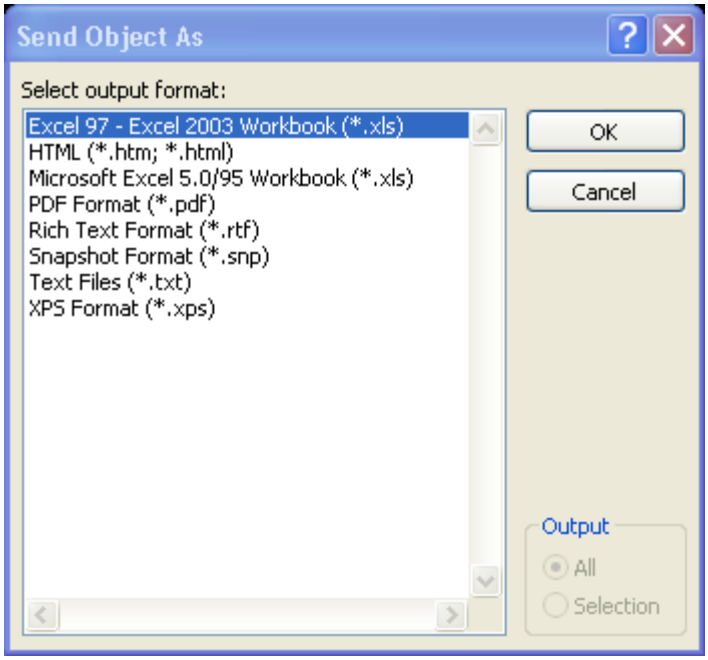
The Invoice Report is used in the following example. Use the following stepsto email a database object.

1. Highlight the object you want to email from the Navigation Pane.

2. Select the **EXTERNAL DATA** tab. Select **EMAIL**.



Access opens the **SEND OBJECT AS** dialog box.



3. Select the format you want to use and select **OK**.

Course Summary

This course provided you with the knowledge and tools to plan and build a database structure using Microsoft Access 2010. You have learned there is more than one way to create, view and edit database objects. You have also learned about various database objects including Tables, Forms, Queries and Reports. Each of these objects is capable of performing various tasks to help you collect and organize your data in a meaningful way. While Tables and Forms help you gather data effectively and efficiently, Queries and Reports help you present your data in a way that makes sense without excessive editing to avoid unwanted data.

Optional Follow-up session date TBD

Sometimes the questions you have may not arise until after the learning session is over. The optional follow-up session is a chance for you to ask questions after you have had some time to apply your new skills on the job. These sessions are optional and may be in the form of a webinar, phone conference or leader-led workshop. Ask your instructor for details.

Thank You

Thank you for participating in the Access 2010 Blended Learning Program offered through the office of Organization & Employee Development, a division of WSU Human Resources. We are committed to providing professional development opportunities for all WSU employees. To learn more about our office please visit our website at http://wayne.edu/hr/oed/index.php You can also contact our office by phone (313) 577-2111 or by email at OED@wayne.edu