

Access 2016 Essentials

Corporate Training Materials



Module One: Getting Started

Welcome to the Access 2016 workshop. In this course, you'll learn the core database management, manipulation and query skills needed to succeed in Access 2016. We'll look at how to create and manage a database, how to build tables, and how to create queries, forms, and reports.

The doors of wisdom are never shut.

Benjamin Franklin



Workshop Objectives

Create
and
Manage
a
Database

Build
Tables

Create
Queries

Create
Forms

Create
Reports

Module Two: Create and Manage a Database

This module introduces students to a Word document and the different ways of creating documents. We'll introduce the Ribbon so that students are familiar with the tool terminology. Then we'll look at ways of navigating through a document.

The goal is to transform data into information, and information into insight.

Carly Fiorina

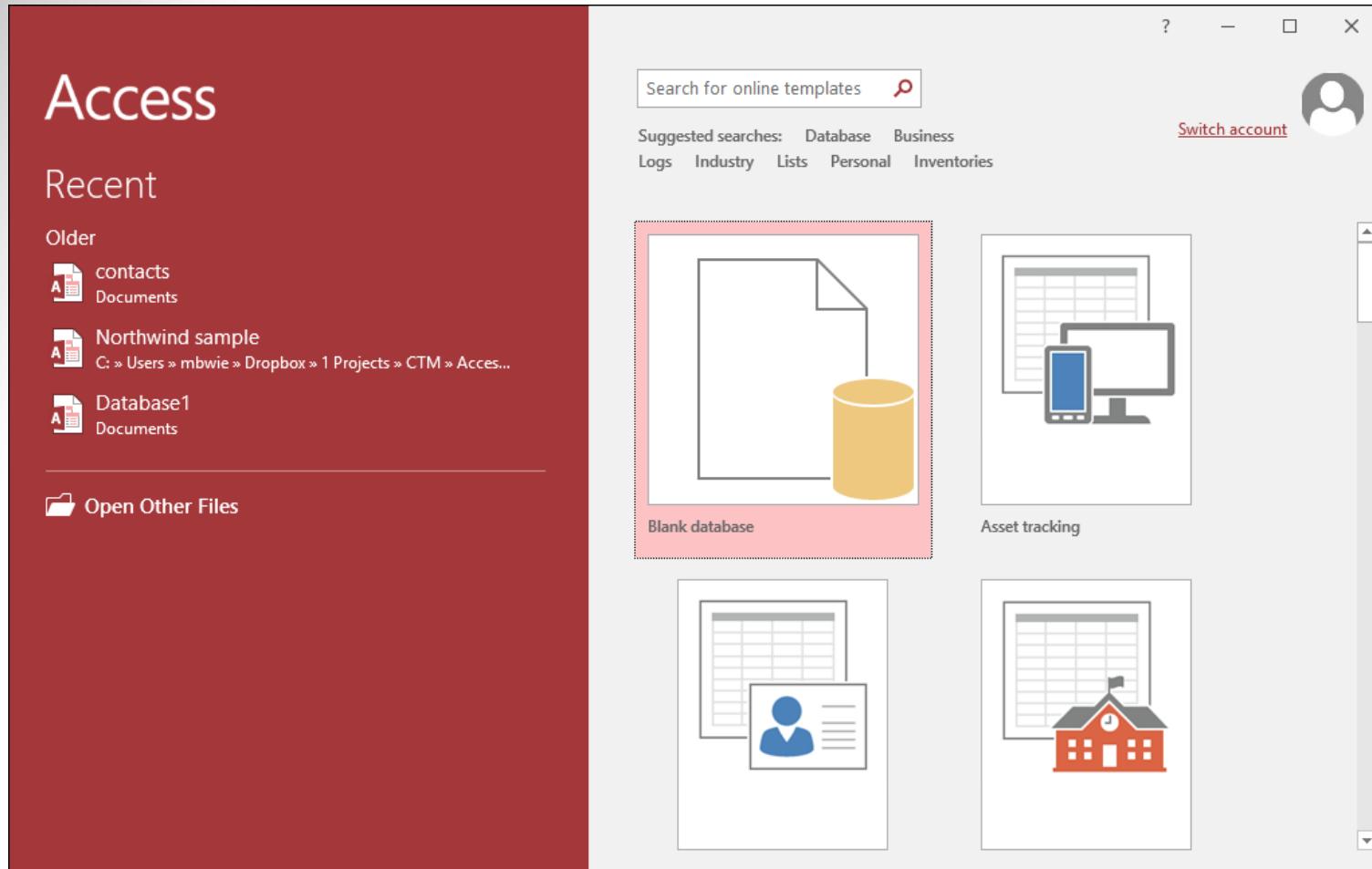


Lesson: Create and Modify Databases

In this lesson, we'll introduce the following topics:

- Create a blank desktop database
- Create a database from a template
- Create a database by using Import objects or data from other sources
- Delete database objects

Create a Blank Desktop Database



Create a Database from a Template

My sample data : Database- C:\Users\mbwie\OneDrive\Documents\My sample data.accdb (Access 2007 - 201... Michele Wiedemer ? - X

New

Home Business

Desktop Business account l... ➔

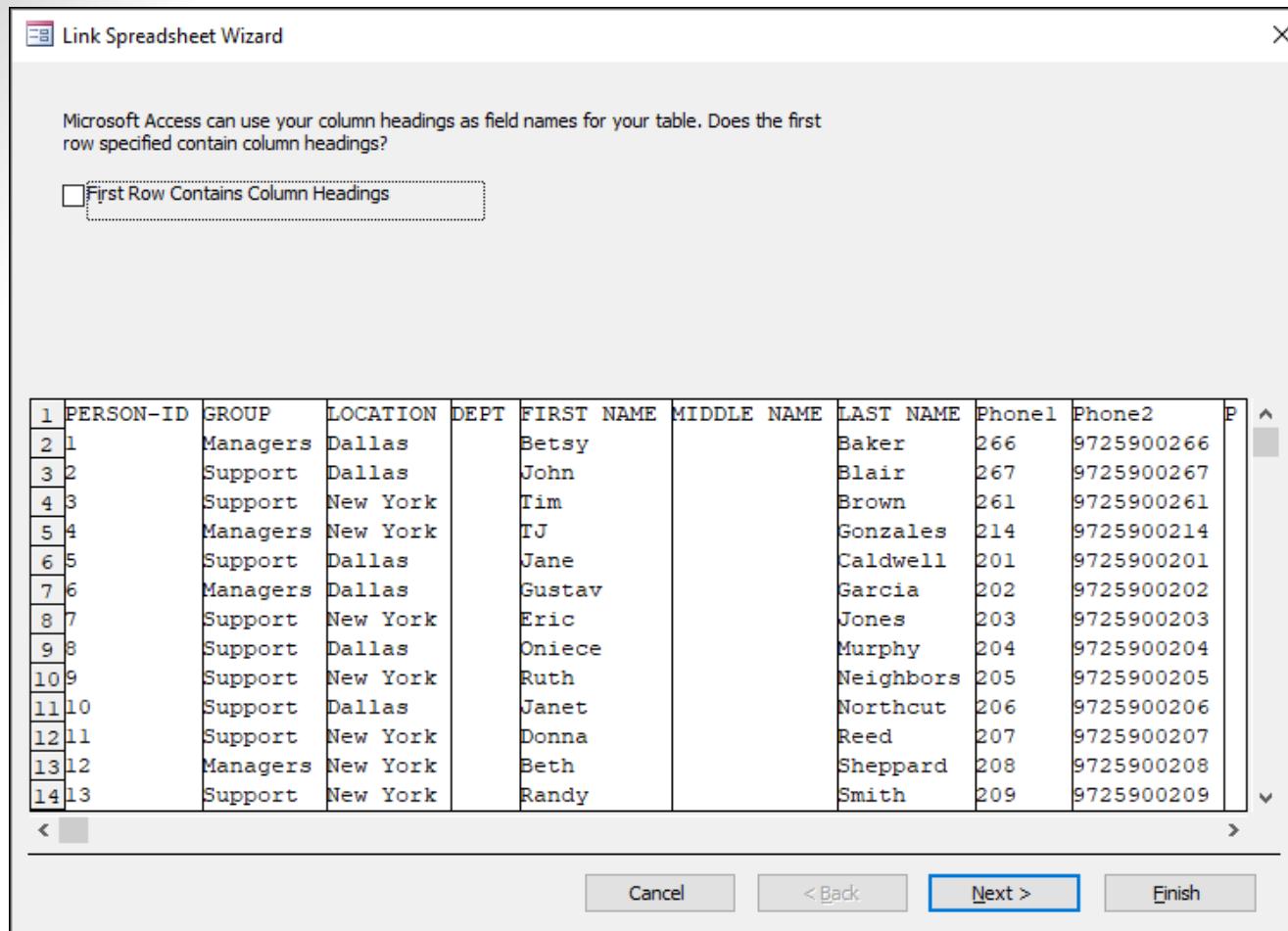
Category

Category	Count
Business	237
Industry	90
Design Sets	58
Marketing	46
Presentations	37
Business Plans	35
Technology	34
Business Cards	33
Cards	33
Financial Management	29
Personal	29
Sales	26
Analysis	22
Brochures	22
Paper	22
Avery	20
Lanners	10

Search results from your other Office applications

- Word: 115
- Publisher: 27
- Project: 4

Create a Database by using Import Objects or Data from Other Sources



Delete Database Objects

The screenshot shows the Microsoft Access 2016 interface. The ribbon is at the top with tabs: File, Home, Create, External Data, Database Tools, and Help. The Home tab is selected. The Home tab ribbon includes sections for View, Clipboard, Sort & Filter, Records, Find, and Text Formatting. A SECURITY WARNING message is present. The main area displays a Contact List form with fields for First Name, Last Name, Company, Job Title, Category, and E-mail Address. A context menu is open over the 'Settings' item in the Tables list on the left side of the ribbon. The context menu options for 'Settings' are: Open, Design View, Import, Export, Rename, Hide in this Group, Delete, Cut, Copy, Paste, Linked Table Manager, Convert to Local Table, and Table Properties.

Lesson: Manage Relationships and Keys

In this lesson, we'll introduce the following topics:

- Create and modify relationships
- Set the primary key
- Enforce referential integrity
- Set foreign keys
- View relationships

Set the Primary Key

The screenshot shows the Microsoft Access application interface in Design view. The title bar reads "Contact Management Database". The ribbon is visible with the "Table Tools" tab selected, specifically the "Design" tab. On the left, the navigation pane lists "All Access Objec..." under "Tables", with "Contacts" selected. The main area displays the "Contacts" table structure:

Field Name	Data Type	Description (Optional)
ID	AutoNumber	
Company	Short Text	
Primary Key	Short Text	
	Short Text	

A context menu is open over the "Primary Key" field, showing options like Cut, Copy, Paste, Insert Rows, Delete Rows, and Properties. The "Properties" option is highlighted. A tooltip for "Properties" states: "A field name can be up to 64 characters long, including spaces. Press F1 for help on field names." At the bottom of the screen, a status bar message says "Design view. F6 = Switch panes. F1 = Help.".

View Relationships

The screenshot shows the Microsoft Access application interface. The title bar reads "Contact Management Database". The ribbon is visible with the "Relationship Tools" tab selected, which is highlighted in red. The "Design" tab is also visible. The status bar at the bottom left says "Ready" and at the bottom right says "Num Lock".

The left pane displays the "All Access Objects" navigation pane, listing categories like Tables, Queries, Forms, Reports, Macros, and Modules. The "Tables" category is expanded, showing "Contacts" and "Orders".

The main workspace shows the "Relationships" window. It displays two tables: "Contacts" and "Orders". The "Contacts" table has columns: ID, Company, Last Name, First Name, E-mail Address, and Job Title. The "Orders" table has columns: ID and Order Number. A relationship line connects the "ID" column in the "Contacts" table to the "ID" column in the "Orders" table.

The ribbon tabs shown are:

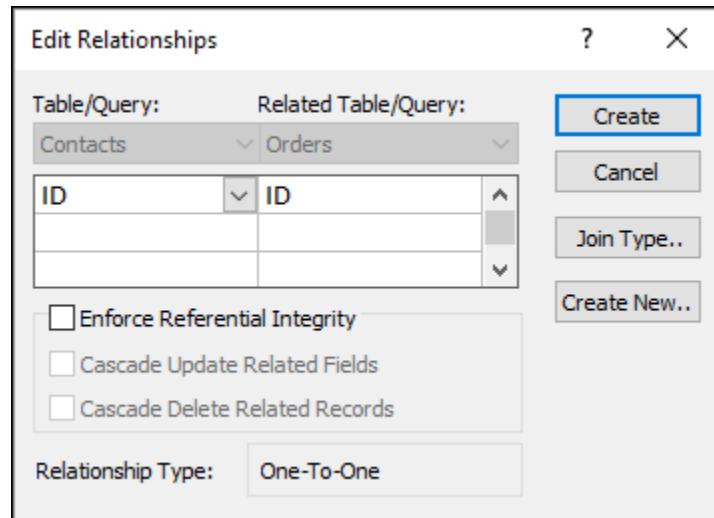
- File
- Home
- Create
- External Data
- Database Tools
- Relationship Tools
- Design

The "Relationship Tools" tab has the following options:

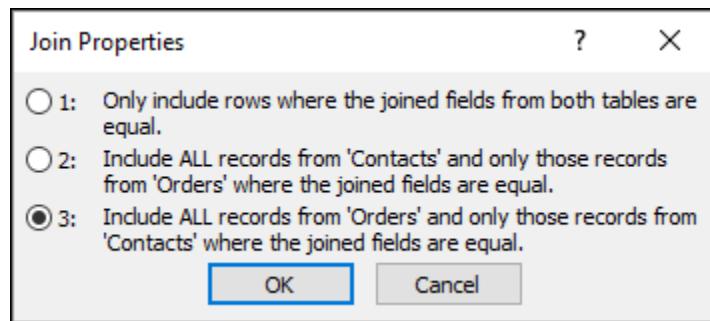
- Hide Table
- Direct Relationships
- All Relationships
- Close

A search bar at the top right says "Tell me what you want to do".

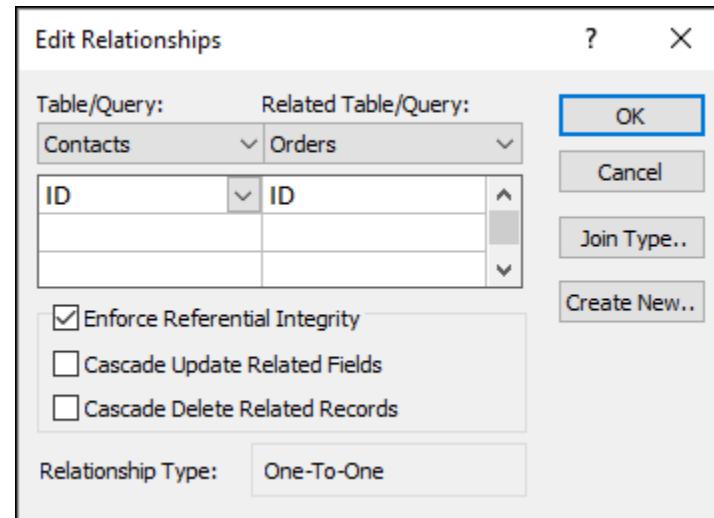
Create Relationships



Set Foreign Keys



Enforce Referential Integrity

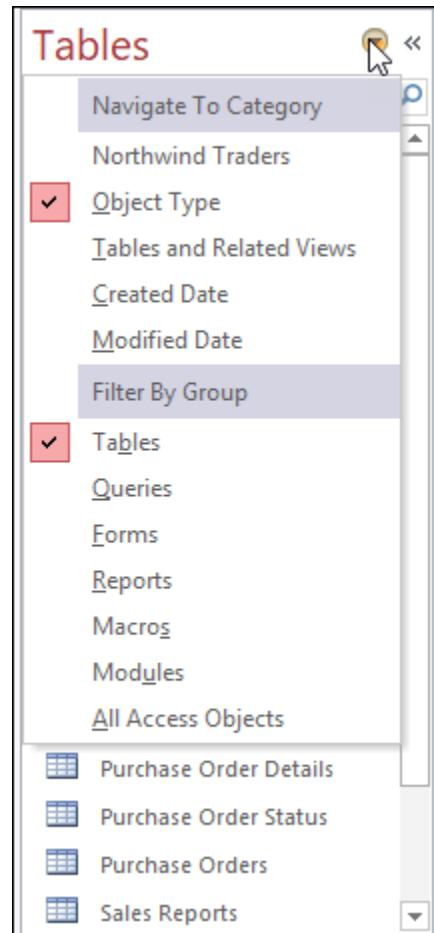


Lesson: Navigate Through a Database

In this lesson, we'll introduce the following topics:

- Navigate specific records
- Create and modify a navigation form
- Set a form as the startup option
- Display objects in the Navigation Pane
- Change views of objects

Display Objects in the Navigation Pane

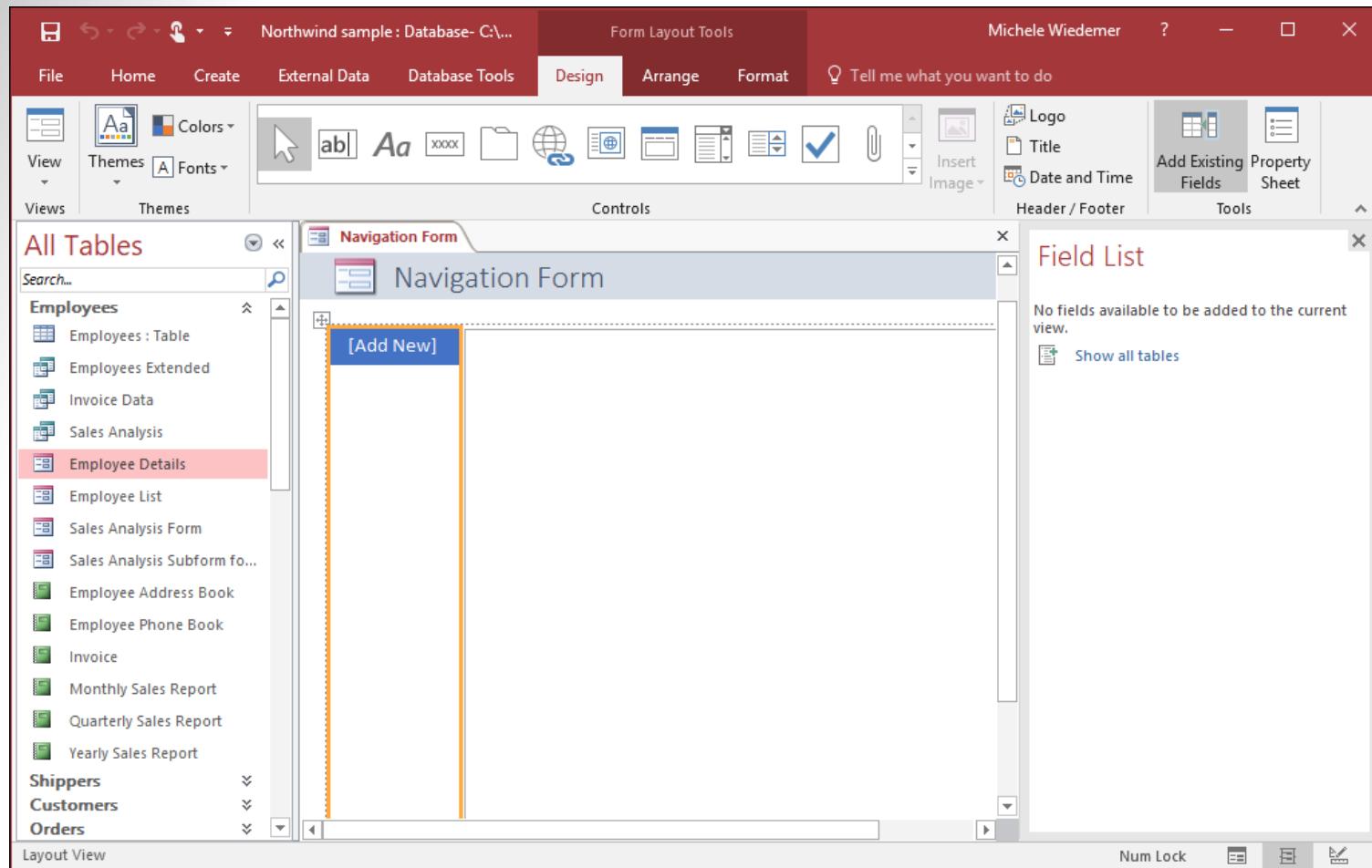


Navigate Specific Records

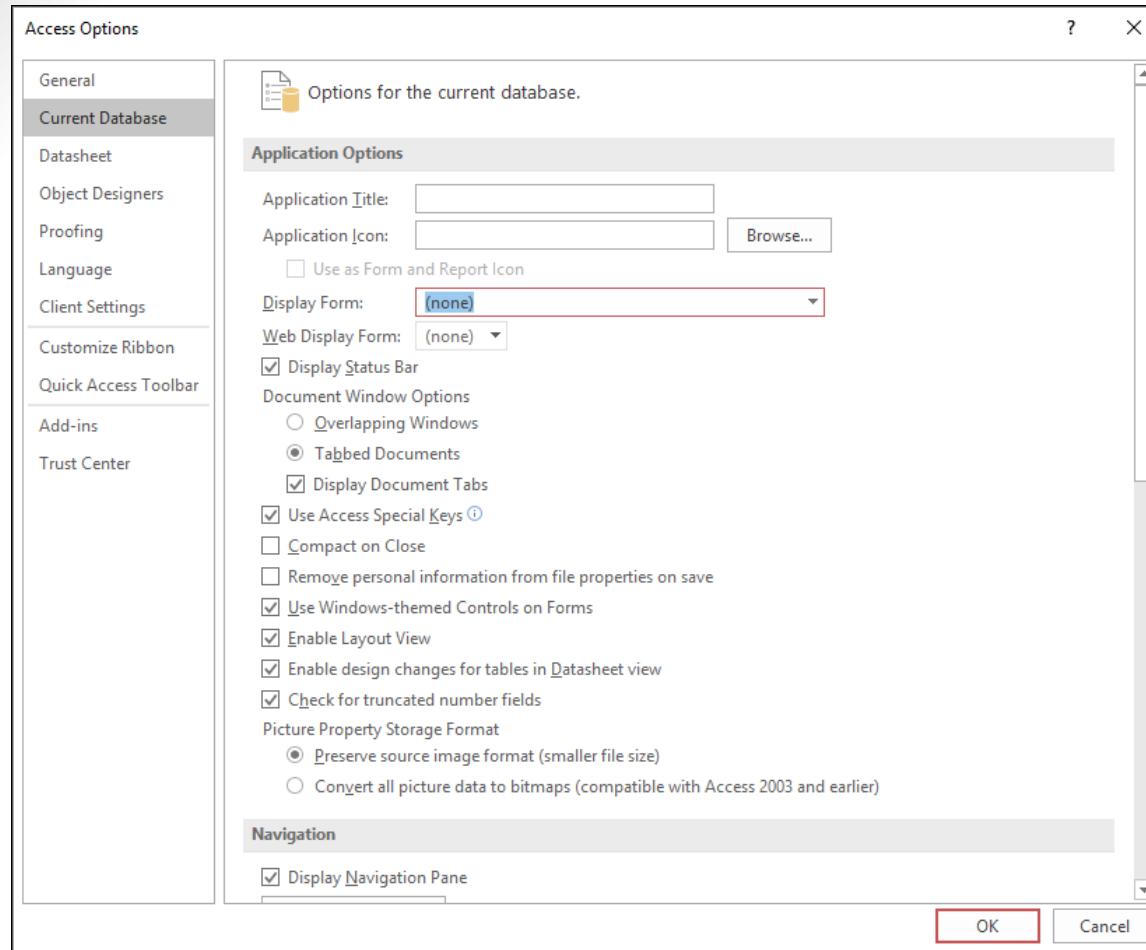
The screenshot shows the Microsoft Access application interface with the Northwind sample database open. The ribbon is visible at the top, showing the Home tab selected. The main area displays the Employees table in Datasheet View. The table has columns for ID, Company, Last Name, First Name, E-mail Address, Job Title, and Business Phone. The first few rows show records for Nancy, Andrew, Jan, Mariya, Steven, Michael, Robert, Laura, and Anne. A new record is currently being edited, indicated by the '(New)' entry in the ID column. The left pane shows a navigation bar with links to All Tables, Employees, Shippers, Customers, and Orders. The status bar at the bottom indicates 'Datasheet View' and 'Num Lock'.

ID	Company	Last Name	First Name	E-mail Address	Job Title	Business Phone
1	Northwind Trade	Freehafer	Nancy	nancy@northwindtrader.com	Sales Representative	(123)555-0100
2	Northwind Trade	Cencini	Andrew	andrew@northwindtrade.com	Vice President, Sales	(123)555-0100
3	Northwind Trade	Kotas	Jan	jan@northwindtraders.com	Sales Representative	(123)555-0100
4	Northwind Trade	Sergienko	Mariya	mariya@northwindtrader.com	Sales Representative	(123)555-0100
5	Northwind Trade	Thorpe	Steven	steven@northwindtrader.com	Sales Manager	(123)555-0100
6	Northwind Trade	Neipper	Michael	michael@northwindtrade.com	Sales Representative	(123)555-0100
7	Northwind Trade	Zare	Robert	robert@northwindtrader.com	Sales Representative	(123)555-0100
8	Northwind Trade	Giussani	Laura	laura@northwindtraders.com	Sales Coordinator	(123)555-0100
9	Northwind Trade	Hellung-Larsen	Anne	anne@northwindtraders.com	Sales Representative	(123)555-0100
*	(New)					

Create and Modify a Navigation Form



Set a Form as the Startup Option



Change Views of Objects

The screenshot shows the Microsoft Access application interface. The title bar reads "Northwind sample: Database- C:\...". The ribbon tabs are "File", "Home", "Create", "External Data", "Database Tools", "Design", "Arrange", "Format", and "Tell me what you want to do". The "Home" tab is selected.

In the left pane, under "Navigation Form", the "Employee Details" item is selected and highlighted with a red box. Other items include "Employee List", "Sales Analysis Form", "Sales Analysis Subform fo...", "Employee Address Book", "Employee Phone Book", "Invoice", "Monthly Sales Report", "Quarterly Sales Report", and "Yearly Sales Report". Below these are sections for "Shippers", "Customers", and "Orders".

The main area displays the "Employee Details" form for Andrew Cencini. The form has tabs for "General" and "Orders". The "General" tab shows fields for First Name (Andrew), Last Name (Cencini), Company (Northwind Traders), and Job Title (Vice President, Sales). The "Phone Numbers" section contains fields for Business Phone ((123)555-0100), Home Phone ((123)555-0102), and Mobile Phone.

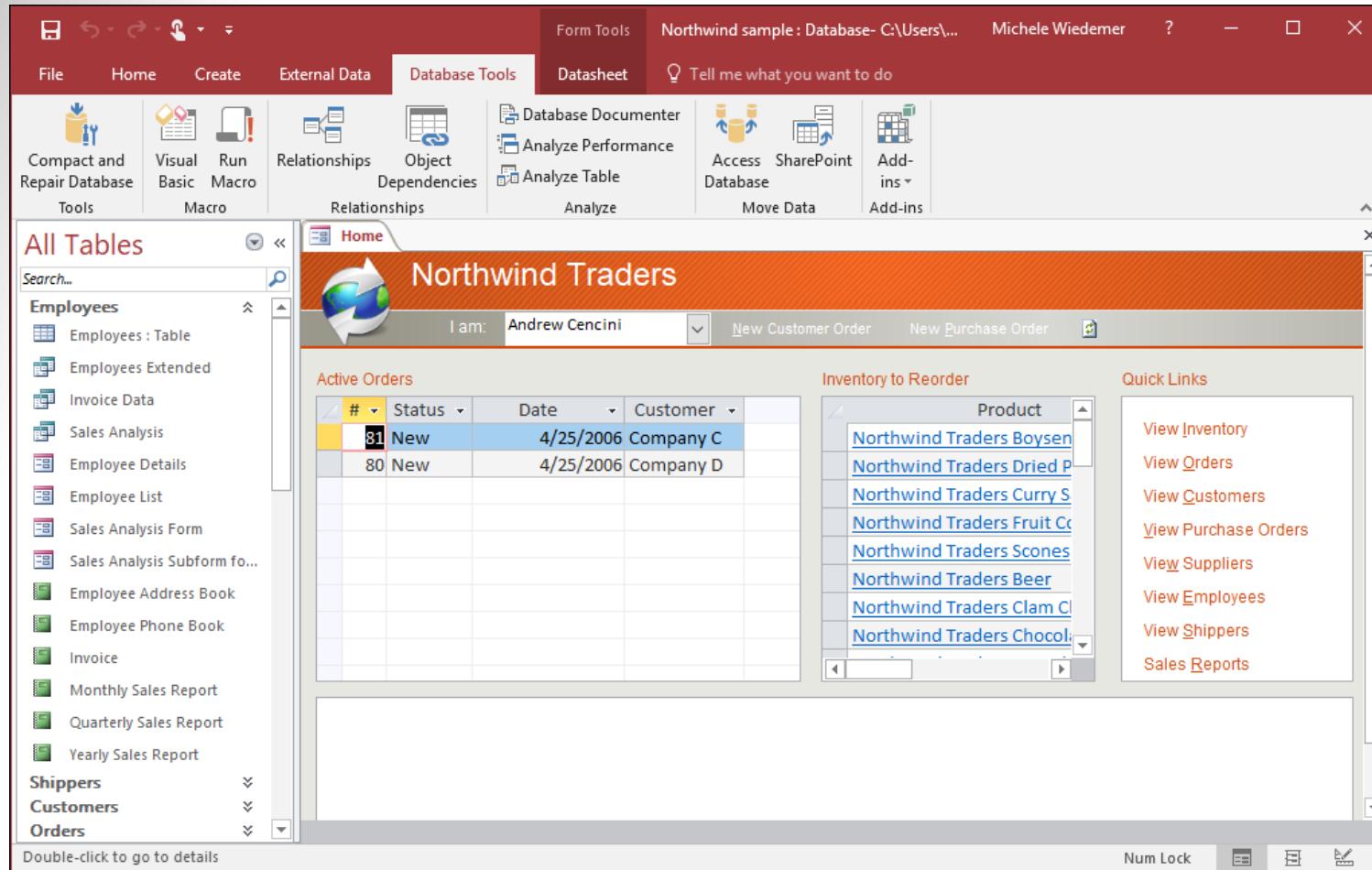
The "Field List" pane on the right shows fields available for this view: "Company" and "Home Phone".

Lesson: Protect and Maintain Databases

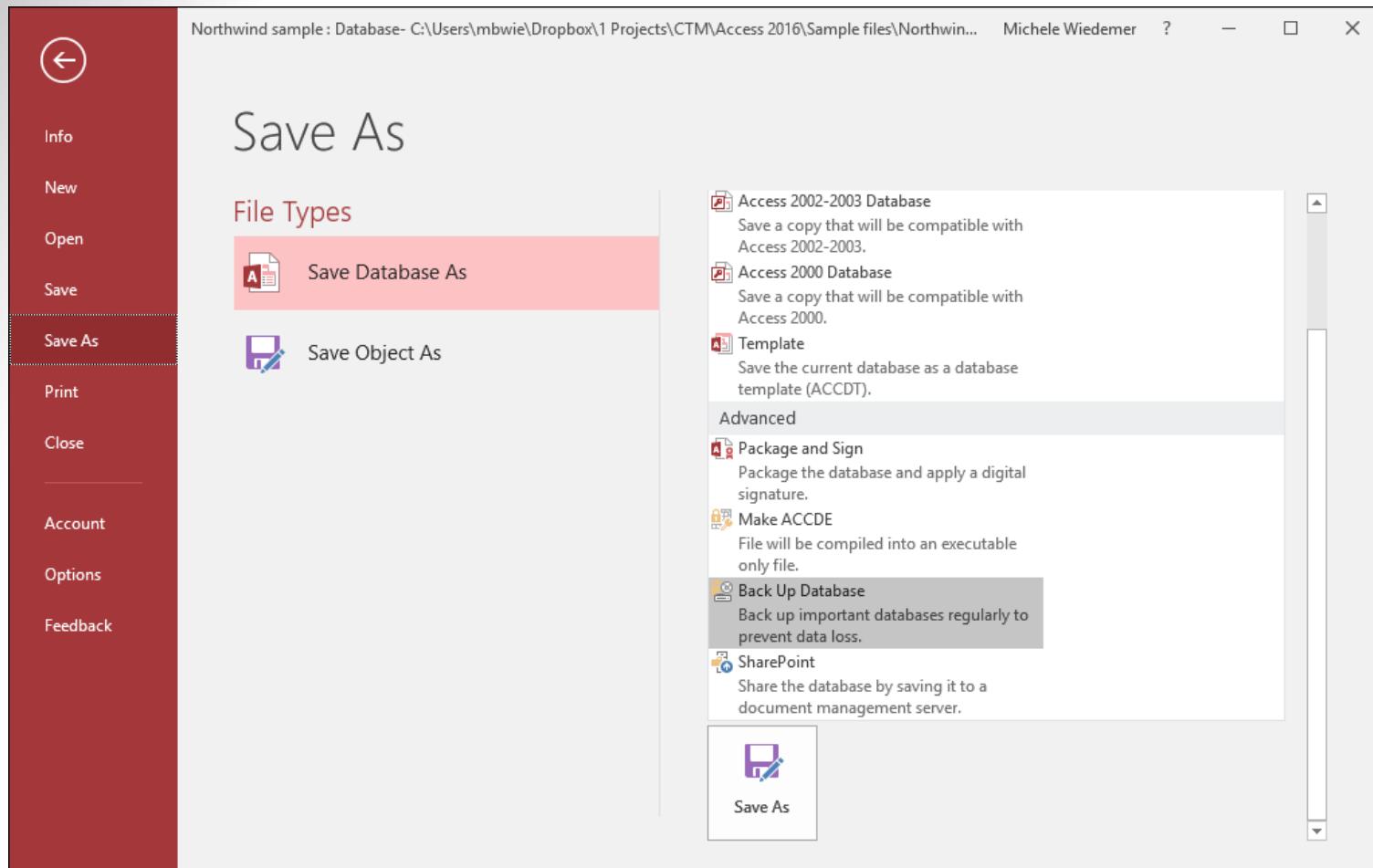
In this lesson, we'll introduce the following topics:

- Compact and repair a database
- Back up a database
- Recover data from backup
- Split a database
- Encrypt a database with a password

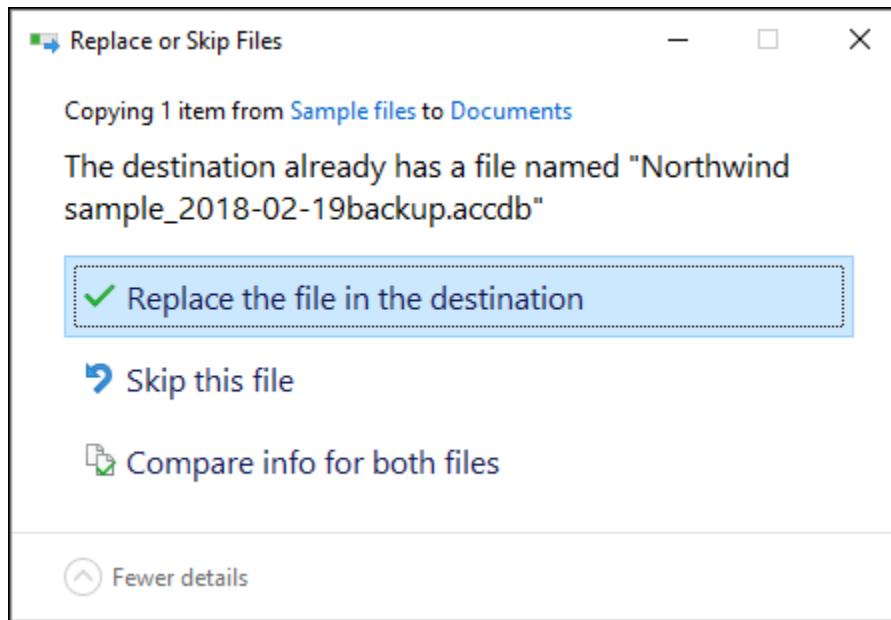
Compact and Repair a Database



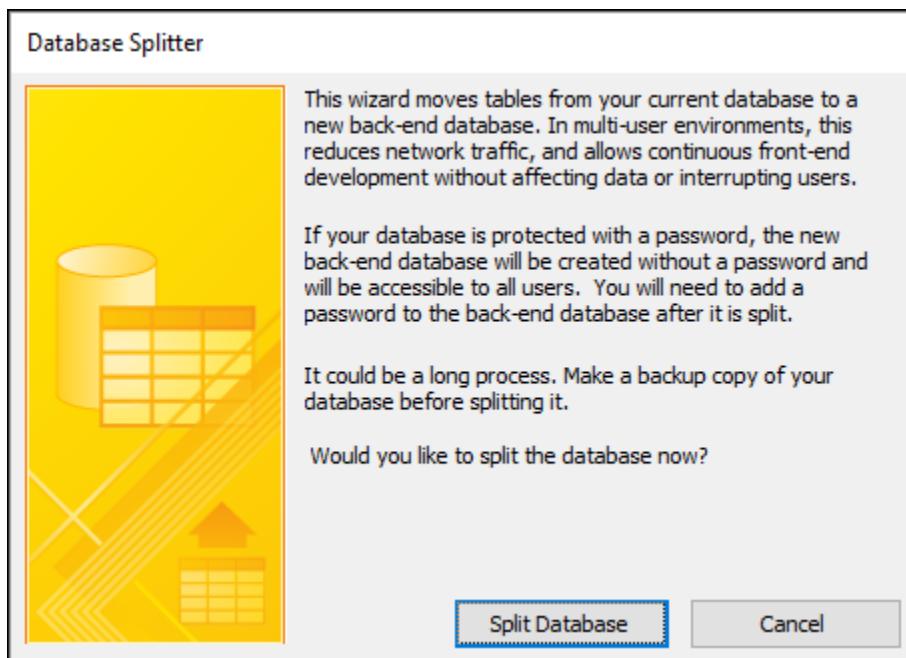
Back Up a Database



Recover Data from Backup



Split a Database



Encrypt a Database with a Password

Contact Management Database Michele Wiedemer ? — □ ×

Info

My Sample Contacts
C:\Users\mbwie\Dropbox\1 Projects\CTM\Access 2016\Sample files

 Compact & Repair Database
Help prevent and correct database file problems by using Compact and Repair.

[View and edit database properties](#)

 Encrypt with Password
Use a password to restrict access to your database. Files that use the 2007 Microsoft Access file format or later are encrypted.

Info

New

Open

Save

Save As

Print

Close

Account

Feedback

Options

Lesson: Print and Export Data

In this lesson, we'll introduce the following topics:

- Print reports
- Print records
- Save a database as a template
- Export objects to alternative formats

Print Reports

The screenshot shows the Microsoft Access Print Preview window. The title bar indicates the database is "Northwind sample: Database- C:\Users\mbwie\Dropbox\1 Projects\CTM\Access 2016\Sample file..." and the user is Michele Wiedemer. The ribbon tabs are "File" and "Print Preview". The "Print Preview" tab is selected, showing various print options like "Print", "Size", "Margins", "Page Layout" (selected), "Zoom" (One Page), "Data" (Refresh All, Excel, Text File, PDF or XPS, Email, More), and "Close Print Preview".

The left pane displays a list of reports under the heading "Reports". The "Customer Phone Book" report is selected and highlighted with a red border. Other reports listed include "Customer Address Book", "Employee Address Book", "Employee Phone Book", "Invoice", "Monthly Sales Report", "Product Category Sales by M...", "Product Sales by Category", "Product Sales by Total Revenue", "Product Sales Quantity by Em...", "Quarterly Sales Report", "Supplier Address Book", "Supplier Phone Book", "Top Ten Biggest Orders", and "Yearly Sales Report".

The main preview area shows the "Customer Phone Book" report with the following data:

Contact Name	Business Phone	Home Phone	Mobile Phone
A			
Elizabeth Andersen	(123)555-0100		
Catherine Autier Miconi	(123)555-0100		
Thomas Axen	(123)555-0100		
B			
Jean Philippe Bagel	(123)555-0100		
Anna Bedecs	(123)555-0100		
E			
John Edwards	(123)555-0100		
Alexander Eggerer	(123)555-0100		

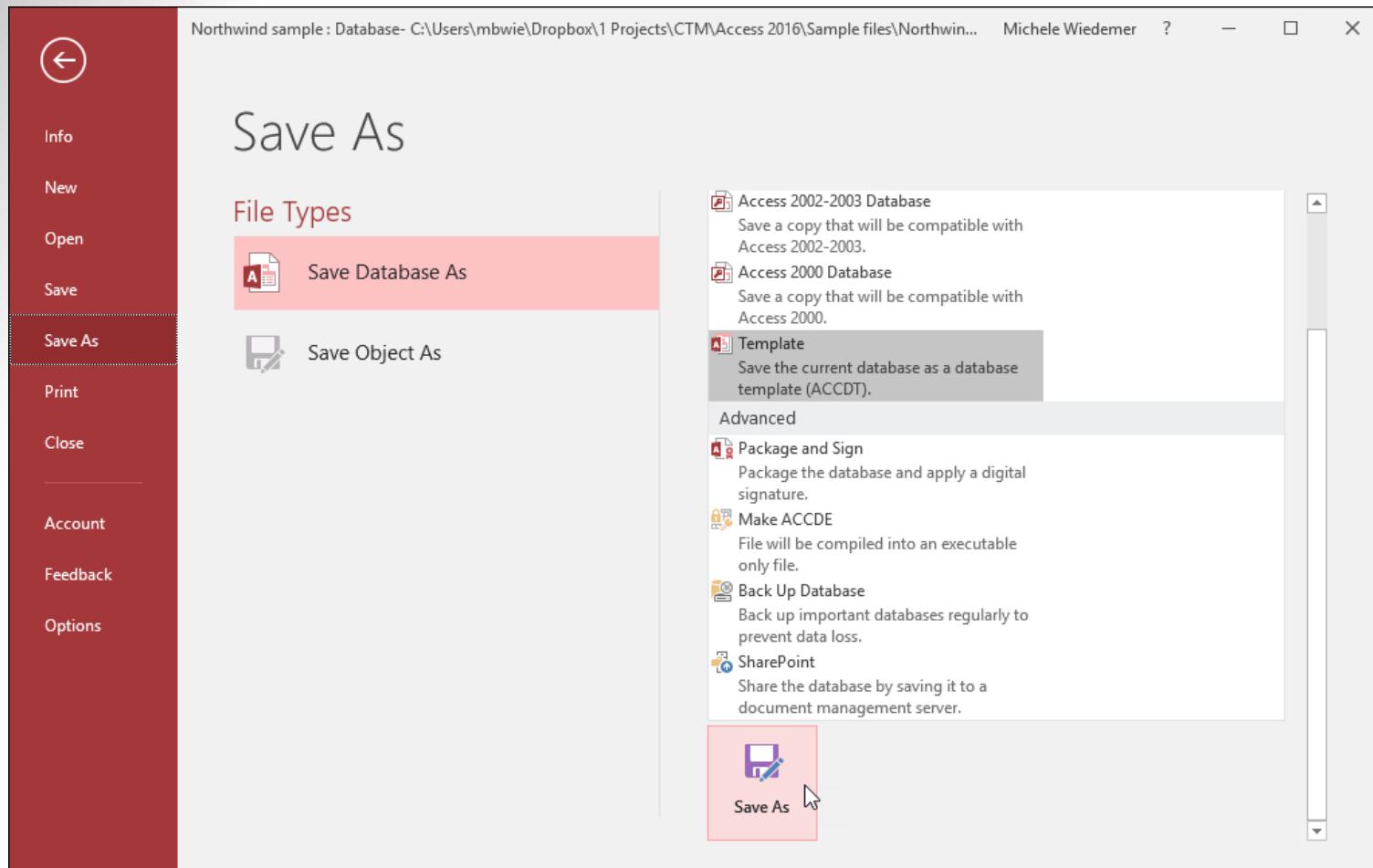
At the bottom of the preview window, there are page navigation buttons (Page: 1 of 1), a "No Filter" button, and a zoom control (Num Lock, 100%).

Print Records

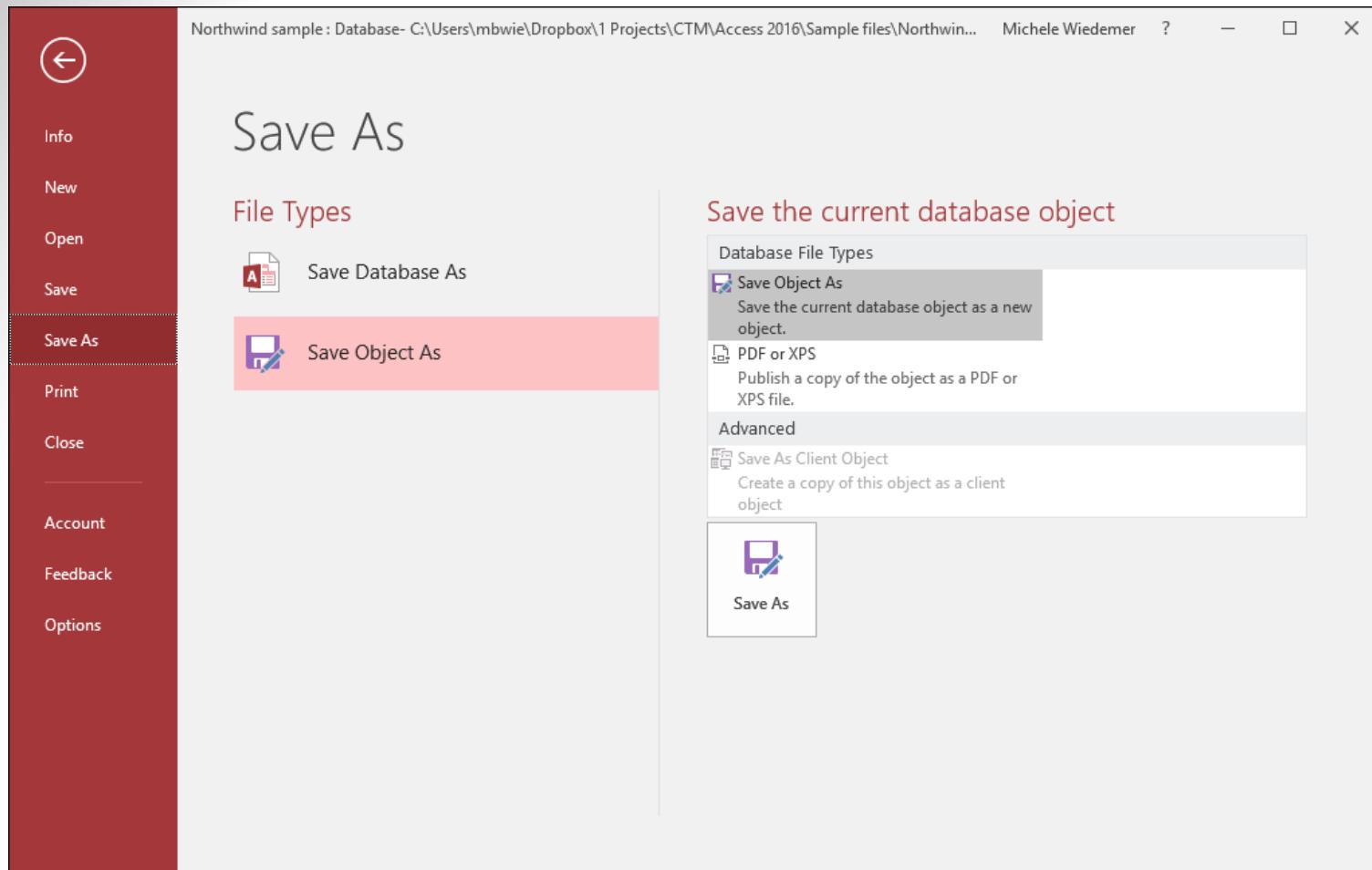
The screenshot shows the Microsoft Access application in Print Preview mode. The title bar indicates the database is "Northwind sample: Database- C:\Users\mbwie\Dropbox\1 Projects\CTM\Access 2016\Sample file.mdb". The ribbon tabs are "File" and "Print Preview". The "Print Preview" tab is selected, showing various print options like "Print", "Size", "Margins", "Page Layout", "Zoom", "Data", and "More". The "Page Layout" section is active, showing "Portrait" selected. The main area displays the "Customers" table from the Northwind database. The table has columns: ID, Company, Last Name, First Name, and E-mail Address. It contains 20 rows of customer data. The preview window shows the first page of the printout, which includes the table header and the first few rows of data. The status bar at the bottom shows "Page: 1" and "38%".

ID	Company	Last Name	First Name	E-mail Address
1	Company A	Bedekas	Astro	
2	Company B	Grahlsson Söder	Antonina	
3	Company C	Kallen	Thomas	
4	Company D	Orsundir	Dorothy	
5	Company E	O'Donnell	Martin	
6	Company F	Pineo-David	François	
7	Company G	Ke	Ming-Yang	
8	Company H	Montgomery	Elizabeth	
9	Company I	Nichols	Sam	
10	Company J	Adler	Reinhard	
11	Company K	Kochhar	Peter	
12	Company L	Edwards	John	
13	Company M	Jackson	Vadim	
14	Company N	Schoen	Carsten	
15	Company O	Spicoli	Alberto	
16	Company P	Goldschmidt	Daniel	
17	Company Q	Biegel	Ivan Philippe	
18	Company R	Antler-Monti	Catherine	
19	Company S	Togneri	Alessandro	
20	Company T	Olsson	Ulf	
21	Company U	Tham	Sernard	
22	Company V	Ramen	Lorraine	
23	Company W	Trint	Michael	
24	Company X	Isak-Hans	Irene	
25	Company Y	Knorr	Olivia	
26	Company Z	Juu	Ram	
27	Company AA	Foh	Karen	
28	Company BB	Raghav	Arumbarath	
29	Company CC	Lee	Soo-Jung	

Save a Database as a Template



Export Objects to Alternate Formats



Module Two: Review Questions

1. To create an Access database from an Excel workbook, which option do you choose on the Backstage View?
 - a) New
 - b) Open
 - c) Import
 - d) Print
2. Which tab includes the tool for viewing, creating or modifying relationships?
 - a) Home
 - b) Create
 - c) External Data
 - d) Database Tools

Module Two: Review Questions

3. Use the Access Options dialog box to indicate a startup display form in the current database.
 - a) True
 - b) False
4. Which option is the only object that includes “Print Preview” as one of the views available on the Home tab of the Ribbon?
 - a) Table
 - b) Query
 - c) Form
 - d) Report

Module Two: Review Questions

5. How do you create a backup for your database to help prevent data loss from a corrupted database or user error?

6. You use File Explorer to restore a database from a backup.
 - a) True
 - b) False

Module Two: Review Questions

7. Any database user can encrypt that database with a password at any time.
 - a) True
 - b) False

8. You can change the Page Size and Page Layout for a report using the _____ tab on the Ribbon?
 - a) Home
 - b) Database Tools
 - c) Print Preview
 - d) Design

Module Two: Review Questions

9. You can print individual records directly from a table instead of creating a report.
 - a) True
 - b) False
10. Explain the process for distributing an object (table, query, etc.) from a database as a PDF file.

Module Two: Review Questions

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 - a) Table
 - b) Query
 - c) Form
 - d) Report

Module Two: Review Questions

5. How do you create a backup for your database to help prevent data loss from a corrupted database or user error?
Create a backup by selecting Save As from the Backstage View and choosing Back Up Database from the Advanced options.

6. You use File Explorer to restore a database from a backup.
 - a) True
 - b) False

Module Two: Review Questions

7. Any database user can encrypt that database with a password at any time.
 - a) True
 - b) False

8. You can change the Page Size and Page Layout for a report using the _____ tab on the Ribbon?
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 - b) Database Tools
 - c) Print Preview
 - d) Design

Module Two: Review Questions

9. You can print individual records directly from a table instead of creating a report.
 - a) True
 - b) False
10. Explain the process for distributing an object (table, query, etc.) from a database as a PDF file.

Use the Save As command on the Backstage View and use Save Object As. The PDF or XPS option allows you to choose a location and publish the PDF file.

Module Three: Build Tables

Tables are the most important object in Access. Every piece of data entered into the database is stored in a table. We'll look at how to create and manage tables, as well as how to manage records in tables and create and modify fields.

*The key to wisdom is knowing all the right questions.
John A. Simone,
Sr*



Lesson: Create Tables

In this lesson, we'll introduce the following topics:

- Create a table
- Import data into tables
- Create linked tables from external sources
- Import tables from other databases
- Create a table from a template with application parts

Create a Table

The screenshot shows the Microsoft Access application interface. The title bar reads "Northwind sample: Database- C:\...". The ribbon is visible with tabs for File, Home, Create, External Data, Database Tools, Fields, and Table. The "Table Tools" tab is selected. A search bar says "Tell me what you want to do" and displays "Michele Wiedemer".

The left pane shows a list of tables: Customers, Employee Privileges, Employees, Inventory Transaction Types, Inventory Transactions, Invoices, Order Details, Order Details Status, Orders, Orders Status, Orders Tax Status, Privileges, Products, Purchase Order Details, Purchase Order Status, Purchase Orders, and Sales Reports. The "Customers" table is currently selected.

The main workspace displays a table structure with one row. The first column is labeled "ID" and has a dropdown menu with "Click to Add". The second column is labeled "(New)". The table has a primary key symbol (*) in the first row.

The ribbon's "Fields" tab is active, showing field configuration options. The "Properties" group includes "Name & Caption", "Default Value", "Field Size", "Modify", "Lookups", "Expression", and "Settings". The "Formatting" group includes "Data Type" (set to "Text"), "Format" (set to "Formatting"), and currency symbols (\$, %, ., ,). The "Validation" group includes checkboxes for "Required", "Unique", and "Indexed".

At the bottom, the status bar shows "Record: 1 of 1", "No Filter", "Search", "Datasheet View", "Num Lock", and icons for Print and Save.

Import Data Into Tables

Import Spreadsheet Wizard

You can specify information about each of the fields you are importing. Select fields in the area below. You can then modify field information in the 'Field Options' area.

Field Options

Field Name:	<input type="text" value="FIRST NAME"/>	Data Type:	<input type="button" value="Short Text"/>
Indexed:	<input type="button" value="No"/>	<input type="checkbox"/> Do not import field (Skip)	

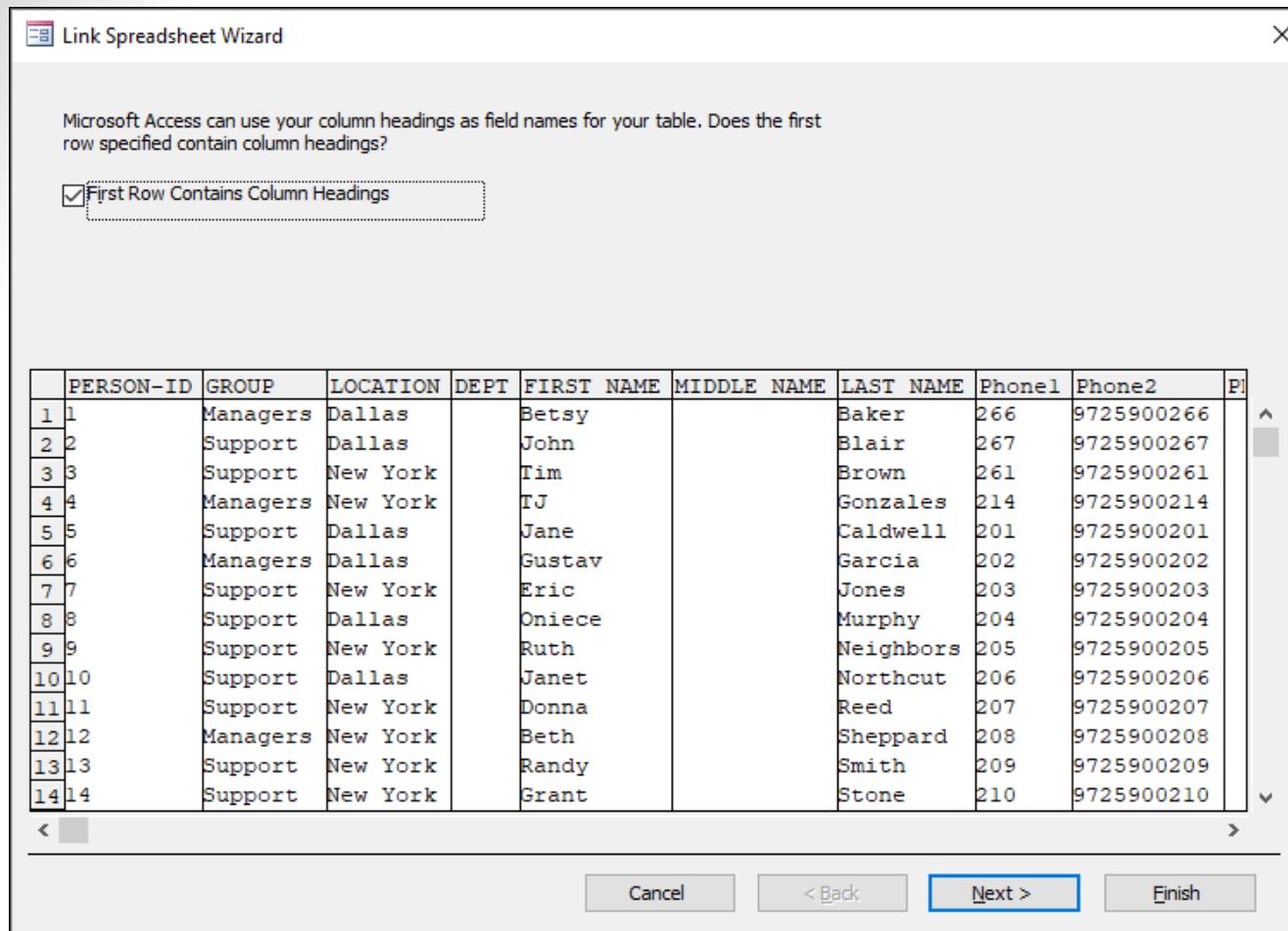
PERSON-ID GROUP LOCATION DEPT FIRST NAME MIDDLE NAME LAST NAME Phone1 Phone2 PI

1	1	Managers	Dallas	Betsy		Baker	266	9725900266	
2	2	Support	Dallas	John		Blair	267	9725900267	
3	3	Support	New York	Tim		Brown	261	9725900261	
4	4	Managers	New York	TJ		Gonzales	214	9725900214	
5	5	Support	Dallas	Jane		Caldwell	201	9725900201	
6	6	Managers	Dallas	Gustav		Garcia	202	9725900202	
7	7	Support	New York	Eric		Jones	203	9725900203	
8	8	Support	Dallas	Oniece		Murphy	204	9725900204	
9	9	Support	New York	Ruth		Neighbors	205	9725900205	
10	10	Support	Dallas	Janet		Northcut	206	9725900206	
11	11	Support	New York	Donna		Reed	207	9725900207	
12	12	Managers	New York	Beth		Sheppard	208	9725900208	
13	13	Support	New York	Randy		Smith	209	9725900209	
14	14	Support	New York	Grant		Stone	210	9725900210	

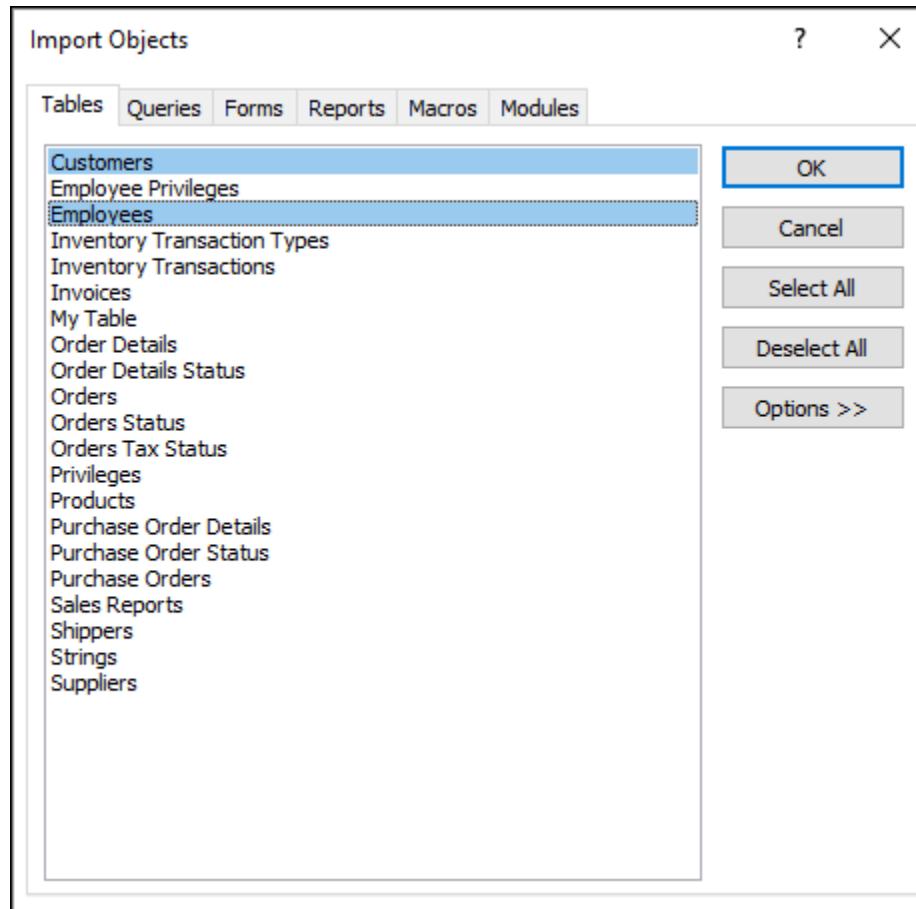
< >

Cancel < Back Next > Finish

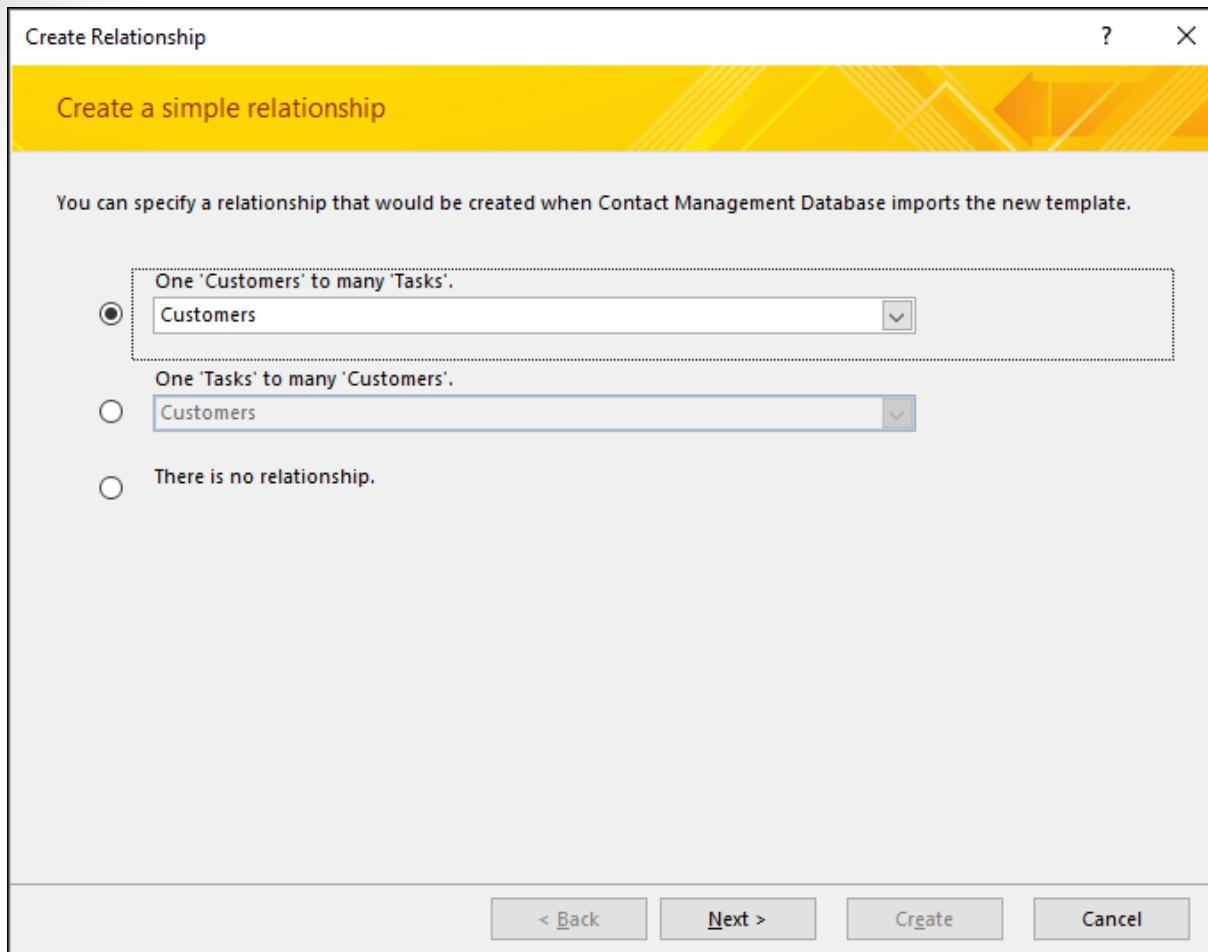
Create Linked Tables from External Sources



Import Tables from Other Databases



Create a Table from a Template with Application Parts



Lesson: Manage Tables

In this lesson, we'll introduce the following topics:

- Hide fields in tables
- Add total rows
- Add table descriptions
- Rename tables

Hide Fields in Tables

The screenshot shows a Microsoft Access application window titled "Northwind sample: Database- C:\...". The ribbon is visible at the top with tabs like File, Home, Create, External Data, Database Tools, Fields, Table, and a search bar. The "Table Tools" tab is selected. On the left, the "Tables" pane lists various tables, with "Customers" selected. The main area displays the "Customers" table data in a grid format. A context menu is open over the "First Name" column header, listing options such as Sort A to Z, Sort Z to A, Copy, Paste, Field Width, Hide Fields, Unhide Fields, Freeze Fields, Unfreeze All Fields, Find..., Insert Field, Modify Lookups, Modify Expression, Rename Field, and Delete Field.

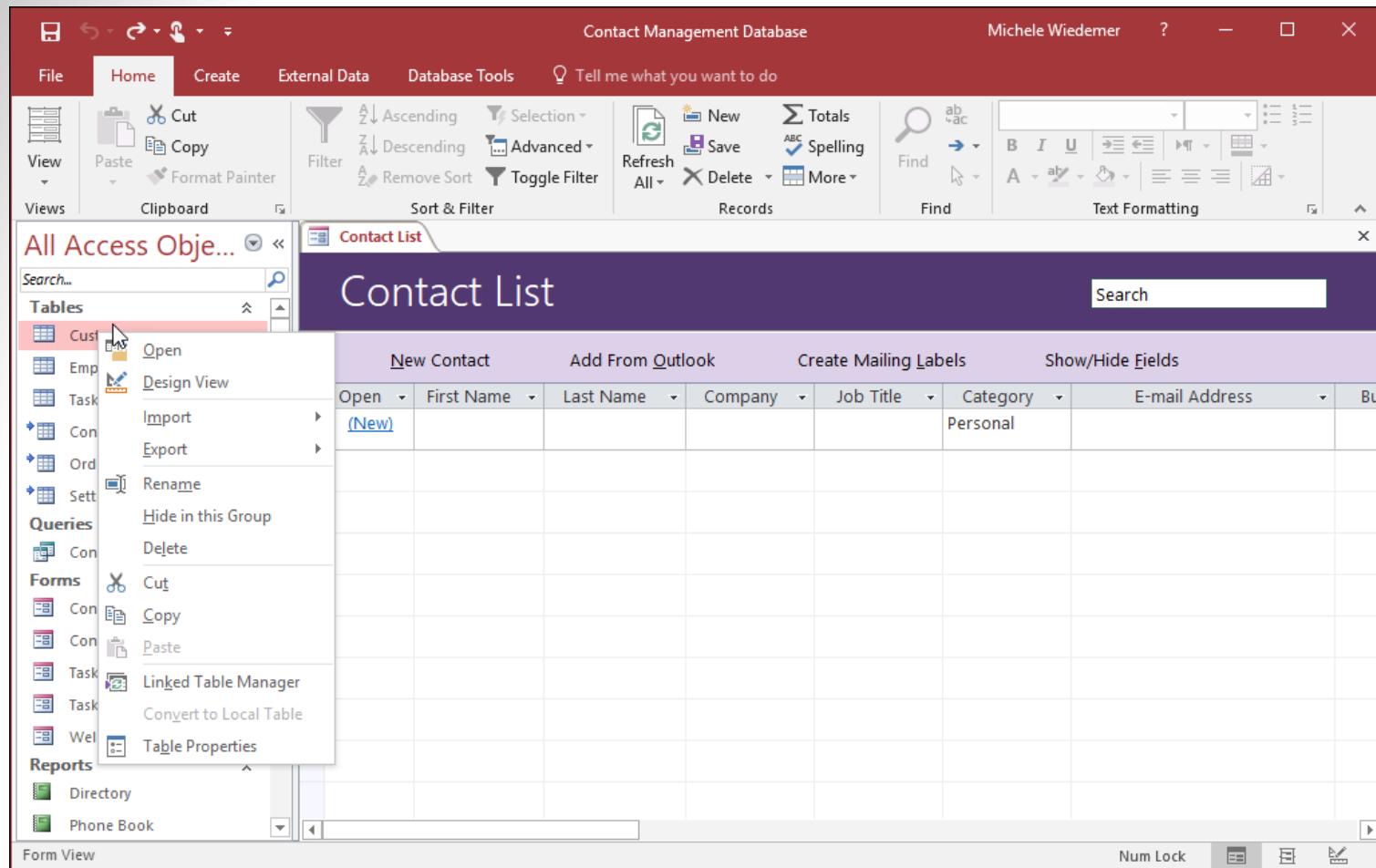
ID	Company	Last Name	First Name	Email Address	Job Title	Business Ph
1	Company A	Bedecs	Anna		Owner	(123)555-011
2	Company B	Gratacos Solsona	Antonio		Owner	(123)555-011
3	Company C	Axen	Thomas		Purchasing Representative	(123)555-011
4	Company D	Lee	Christina		Purchasing Manager	(123)555-011
5	Company E	O'Donnell	Martin		Owner	(123)555-011
6	Company F	Pérez-Olaeta	Francisco		Purchasing Manager	(123)555-011
7	Company G	Xie	Ming-Yan		Owner	(123)555-011
8	Company H	Andersen	Elizabeth		Purchasing Representative	(123)555-011
9	Company I	Mortensen	Sven		Purchasing Manager	(123)555-011
10	Company J	Wacker	Roland		Purchasing Manager	(123)555-011
11	Company K	Krschne	Peter		Purchasing Manager	(123)555-011
12	Company L	Edwards	John		Purchasing Manager	(123)555-011
13	Company M	Ludick	Andre		Purchasing Representative	(123)555-011
14	Company N	Grilo	Carlos		Purchasing Representative	(123)555-011
15	Company O	Kupkova	Helena		Purchasing Manager	(123)555-011
16	Company P	Goldschmidt	Daniel		Purchasing Representative	(123)555-011
17	Company Q	Bagel	Jean Philippe		Owner	(123)555-011
18	Company R	Autier Miconi	Catherine		Purchasing Representative	(123)555-011
19	Company S	Eggerer	Alexander		Accounting Assistant	(123)555-011
20	Company T	Li	George		Purchasing Manager	(123)555-011

Add Total Rows

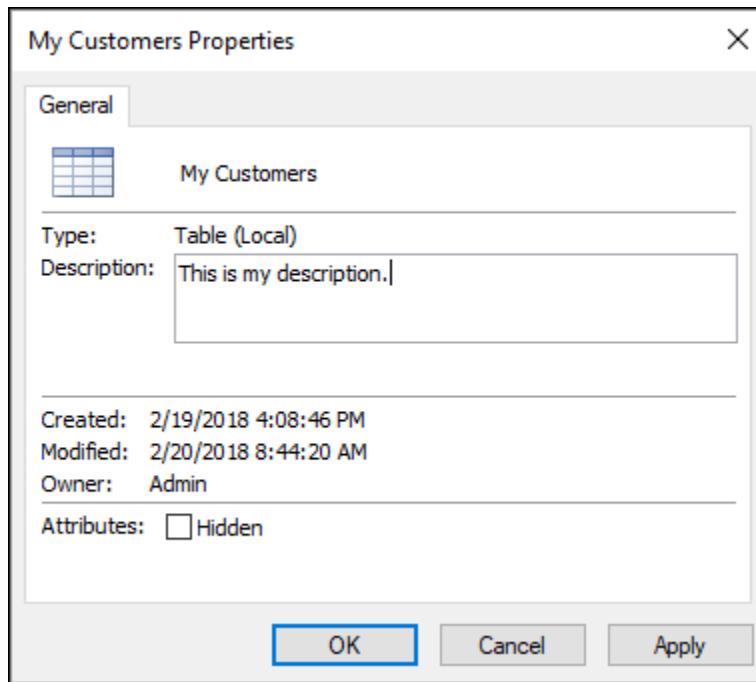
ID	Order ID	Product	Quantity	Unit Price	Discount	Status ID	Comments
79	69	Northwind Trailers & Equipment, Ltd.	15.0	\$3.50	0.00%	Invoiced	
80	67	Northwind Trailers & Equipment, Ltd.	20.0	\$10.00	0.00%	Invoiced	
81	60	Northwind Trailers & Equipment, Ltd.	40.0	\$34.80	0.00%	Invoiced	
82	63	Northwind Trailers & Equipment, Ltd.	50.0	\$10.00	0.00%	Invoiced	
83	63	Northwind Trailers & Equipment, Ltd.	3.0	\$40.00	0.00%	Invoiced	
84	58	Northwind Trailers & Equipment, Ltd.	40.0	\$81.00	0.00%	Invoiced	
85	58	Northwind Trailers & Equipment, Ltd.	40.0	\$7.00	0.00%	Invoiced	
86	80	Northwind Trailers & Equipment, Ltd.	10.0	\$38.00	0.00%	Allocated	
90	81	Northwind Trailers & Equipment, Ltd.	0.0	\$2.99	0.00%	No Stock	
91	81	Northwind Trailers & Equipment, Ltd.	0.0	\$38.00	0.00%	None	
*	(New)		0.0	\$0.00	0.00%		
	Total		58	50.7	▼		

- None
- Sum
- Average
- Count
- Maximum
- Minimum
- Standard Deviation
- Variance

Rename Tables



Add Table Descriptions



Lesson: Manage Records

In this lesson, we'll introduce the following topics:

- Update records
- Add records
- Delete records
- Append records from external data
- Find and replace data
- Sort records
- Filter records

Update Records

The screenshot shows a Microsoft Access application window titled "Northwind sample: Database- C:\...". The ribbon is visible at the top with tabs for File, Home, Create, External Data, Database Tools, Fields, Table, and a search bar. The "Table Tools" tab is selected.

The left pane displays a list of tables: Customers, Employee Privileges, Employees (which is selected and highlighted in red), Inventory Transaction Types, Inventory Transactions, Invoices, My Make Table, My Table, Order Details, Order Details Status, Orders, Orders Status, Orders Tax Status, Privileges, Products, Purchase Order Details, and Purchase Order Status.

The main pane shows the "Employees" table in Datasheet View. The columns are: Last Name, First Name, E-mail Address, Job Title, Business Phone, Home Phone (which is currently selected and highlighted in yellow), and Mobile Phone. The data for the first few rows is as follows:

Last Name	First Name	E-mail Address	Job Title	Business Phone	Home Phone	Mobile Phone
Freehafer	Nancy	nancy@northwindtrader.com	Sales Representative	(123)555-0123	(123)555-0102	
Cencini	Andrew	andrew@northwindtraders.com	Vice President, Sales	(123)555-0100	(123)555-0102	
Kotas	Jan	jan@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Sergienko	Mariya	mariya@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Thorpe	Steven	steven@northwindtraders.com	Sales Manager	(123)555-0100	(123)555-0102	
Nepper	Michael	michael@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Zare	Robert	robert@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Giussani	Laura	laura@northwindtraders.com	Sales Coordinator	(123)555-0100	(123)555-0102	
Hellung-Larsen	Anne	anne@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	

At the bottom of the screen, the status bar shows "Record: 1 of 9", "No Filter", "Search", "Num Lock", and icons for Print and Save.

Add Records

The screenshot shows the Microsoft Access application interface with the Northwind sample database open. The ribbon is visible at the top, showing the Home tab selected. The main area displays the Employees table in Datasheet View. A new record is being added, indicated by the cursor in the first name field and the highlighted row.

Last Name	First Name	E-mail Address	Job Title	Business Phone	Home Phone	Mobile Phone
Freehafer	Nancy	nancy@northwindtraders.com	Sales Representative	(123)555-0123	(123)555-0102	
Cencini	Andrew	andrew@northwindtraders.com	Vice President, Sales	(123)555-0100	(123)555-0102	
Kotas	Jan	jan@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Sergienko	Mariya	mariya@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Thorpe	Steven	steven@northwindtraders.com	Sales Manager	(123)555-0100	(123)555-0102	
Nepper	Michael	michael@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Zare	Robert	robert@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Giussani	Laura	laura@northwindtraders.com	Sales Coordinator	(123)555-0100	(123)555-0102	
Hellung-Larsen	Anne	anne@northwindtraders.com	Sales Representative	(123)555-0100	(123)555-0102	
Wiedemer	Michele					

Datasheet View

Delete Records

The screenshot shows the Microsoft Access application interface. The title bar reads "Northwind sample: Database- C:\...". The ribbon is visible with tabs for File, Home, Create, External Data, Database Tools, Fields, Table, and a search bar. The "Table Tools" tab is selected. In the "Records" section of the ribbon, the "Delete" button is highlighted with a red box.

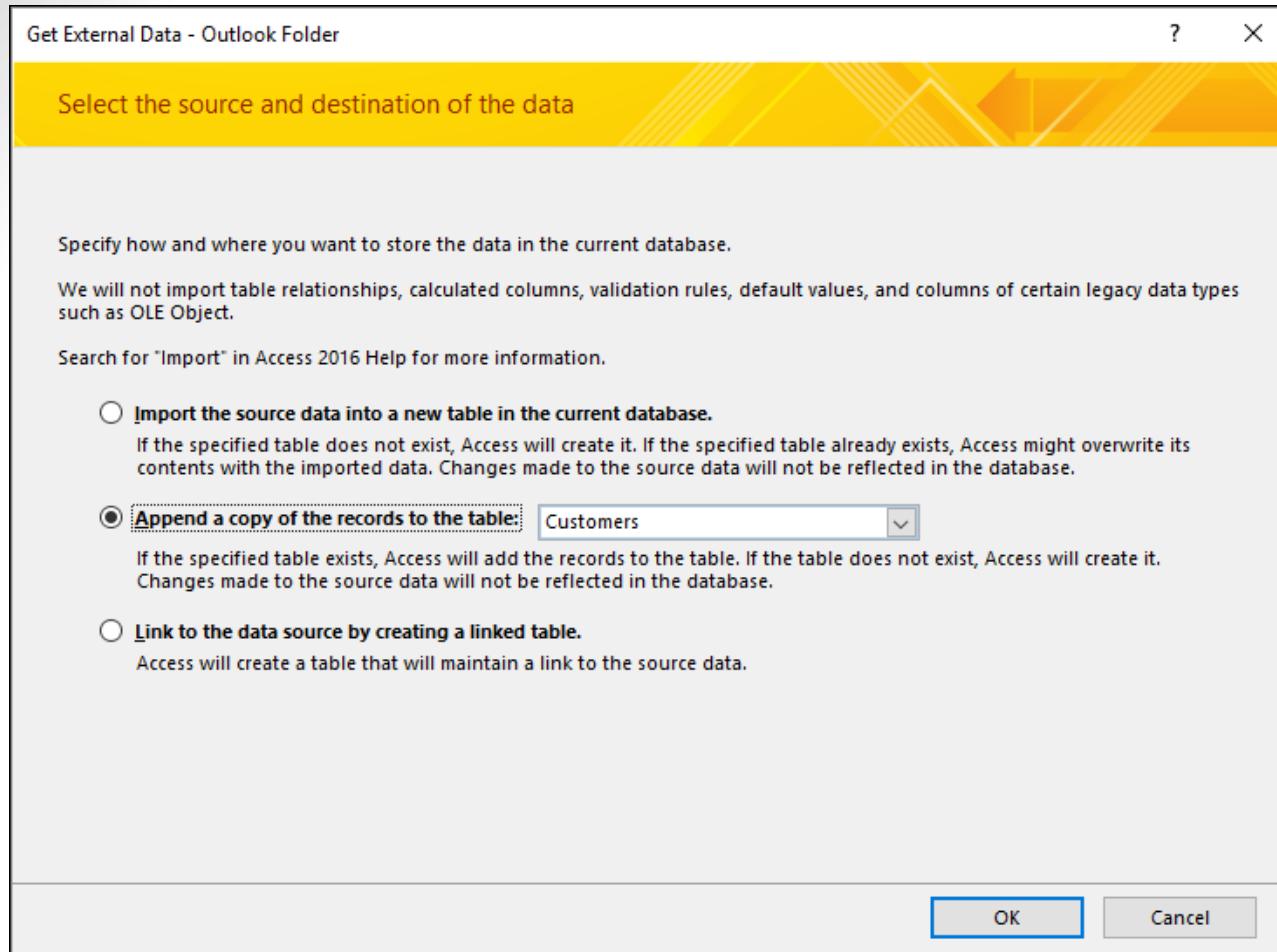
The left pane displays a list of tables: Customers, Employee Privileges, Employees (which is selected and highlighted in red), Inventory Transaction Types, Inventory Transactions, Invoices, My Make Table, My Table, Order Details, Order Details Status, Orders, Orders Status, Orders Tax Status, Privileges, Products, Purchase Order Details, and Purchase Order Status.

The main area shows the "Employees" table in Datasheet View. The columns are: ID, Company, Last Name, First Name, E-mail Address, Job Title, and Business Phone. The data includes 10 records, with record 10 currently selected. Record 10 has the values: ID 10, Company Northwind Trading Co., Last Name Wiedemer, First Name Michele, E-mail Address michele@northwindtraders.com, Job Title Sales Representative, and Business Phone (123)555-0100. A new record is also present at the bottom with ID * and Last Name (New).

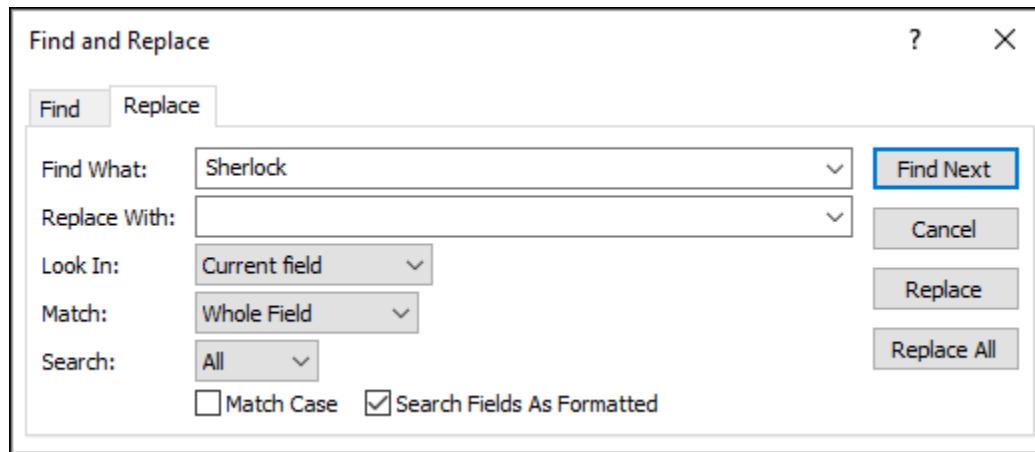
At the bottom, there are navigation buttons for Record, Search, and Num Lock status.

ID	Company	Last Name	First Name	E-mail Address	Job Title	Business Phone
1	Northwind Trading Co.	Freehafer	Nancy	nancy@northwindtrader...	Sales Representative	(123)555-0123
2	Northwind Trading Co.	Cencini	Andrew	andrew@northwindtrade...	Vice President, Sales	(123)555-0100
3	Northwind Trading Co.	Kotas	Jan	jan@northwindtraders...	Sales Representative	(123)555-0100
4	Northwind Trading Co.	Sergienko	Mariya	mariya@northwindtrader...	Sales Representative	(123)555-0100
5	Northwind Trading Co.	Thorpe	Steven	steven@northwindtrader...	Sales Manager	(123)555-0100
6	Northwind Trading Co.	Neipper	Michael	michael@northwindtrader...	Sales Representative	(123)555-0100
7	Northwind Trading Co.	Zare	Robert	robert@northwindtrader...	Sales Representative	(123)555-0100
8	Northwind Trading Co.	Giussani	Laura	laura@northwindtraders...	Sales Coordinator	(123)555-0100
9	Northwind Trading Co.	Hellung-Larsen	Anne	anne@northwindtraders...	Sales Representative	(123)555-0100
10	Northwind Trading Co.	Wiedemer	Michele			
*	(New)					

Append Records from External Data



Find and Replace Data



Sort Records

The screenshot shows a Microsoft Access application window titled "Northwind sample: Database- C:\...". The ribbon is visible at the top with tabs like File, Home, Create, External Data, Database Tools, Fields, Table, and Table Tools. The "Table Tools" tab is selected. On the left, a navigation pane lists tables: Customers, Employee Privileges, Employees, Inventory Transaction Types, Inventory Transactions, Invoices, My Make Table, My Table, Order Details, Order Details Status, Orders, Orders Status, Orders Tax Status, Privileges, Products, Purchase Order Details, and Purchase Order Status. The "Customers" table is currently selected.

The main area displays the "Employees" table with columns: ID, Company, Last Name, First Name, E-mail Address, Job Title, and Business Ph. A context menu is open over the "Last Name" column, showing options: Ascending, Descending, Selection, Advanced, Remove Sort, Toggle Filter, New, Save, Totals, Spelling, Refresh All, Delete, More, Find, and Text Formatting. The "Find" option is highlighted.

The "Last Name" column contains the following data:

Last Name
Bedecks
Gratacos Sol
Axen
Lee
O'Donnell
Pérez-Olaeta
Xie
Andersen
Mortensen
Wacker
Krschne
Edwards
Ludick
Grilo
Kupkova
Goldschmidt
Bagel
Jean Philippe
Autier Miconi
Catherine
Eggerer
Alexander
Li
George

A dropdown menu for "Text Filters" is open, listing items: (Select All), (Blanks), Andersen, Autier Miconi, Axen, Bagel, Bedecks, Edwards, Eggerer, and Entin. The "OK" button is highlighted.

At the bottom, there are navigation buttons: Record, 1 of 30, Search, and Num Lock.

Filter Records

The screenshot shows the Microsoft Access application interface. The ribbon tabs at the top include File, Home, Create, External Data, Database Tools, Fields, Table, and Tell me what you want to do. The Home tab is selected. The left pane displays a list of tables: Customers, Employee Privileges, Employees, Inventory Transaction Types, Inventory Transactions, Invoices, My Make Table, My Table, Order Details, Order Details Status, Orders, Orders Status, Orders Tax Status, Privileges, Products, Purchase Order Details, and Purchase Order Status. The 'Customers' table is currently selected. The main workspace shows a grid of employee data with columns: First Name, E-mail Address, Job Title, Business Pho, Home Phone, Mobile Pho, and Fax Nu. A context menu is open over the 'Job Title' column, listing options like Sort A to Z, Sort Z to A, and Clear filter from Job Title. A 'Text Filters' dialog box is also open, listing job titles with checkboxes: (Select All), (Blanks), Accounting Assistant, Accounting Manager, Lead Detective, Owner, Purchasing Assistant, Purchasing Manager (which is checked), and Purchasing Representative. The 'OK' button is highlighted with a blue border.

Lesson: Create and Modify Fields

In this lesson, we'll introduce the following topics:

- Add fields to tables
- Add validation rules to fields
- Change field captions
- Change field sizes
- Change field data types
- Configure fields to auto-increment
- Set default values
- Using input masks
- Delete fields

Add Fields to Tables

The screenshot shows the Microsoft Access application interface with the "Northwind sample: Database- C:\..." database open. The ribbon is visible at the top, showing the "Table Tools" tab is selected. The "Home" tab is active in the ribbon. On the left, the "Tables" pane lists various tables: Customers, Employee Privileges, Employees (which is selected and highlighted in red), Inventory Transaction Types, Inventory Transactions, Invoices, My Make Table, My Table, Order Details, Order Details Status, Orders, Orders Status, Orders Tax Status, Privileges, Products, Purchase Order Details, and Purchase Order Status. The main workspace displays the "Employees" table in Datasheet View. The columns are: ZIP/Postal C, Country/Reg, Web Page, Notes, and Click to Add. There are 9 records listed, each with a primary key value of 99999. The "Click to Add" column contains a small icon followed by "(0)". The status bar at the bottom indicates "Record: 1 of 9", "No Filter", and "Search".

ZIP/Postal C	Country/Reg	Web Page	Notes	Click to Add
99999	USA	http://northwi		(0)
99999	USA	http://northwi	Joined the com	(0)
99999	USA	http://northwi	Was hired as a	(0)
99999	USA	http://northwi		(0)
99999	USA	http://northwi	Joined the com	(0)
99999	USA	http://northwi	Fluent in Japan	(0)
99999	USA	http://northwi		(0)
99999	USA	http://northwi	Reads and writ	(0)
99999	USA	http://northwi	Fluent in Frenc	(0)
*				

Add Validation Rules to Fields

The screenshot shows the Microsoft Access application interface. The ribbon is visible at the top with the 'Table Tools' tab selected. In the 'Fields' section of the ribbon, the 'Validation' group is open, showing options for 'Required', 'Unique', and 'Indexed'. A validation rule has been applied to the 'Start Date' field, which is currently set to '12/31/2017'. A validation error message box is displayed in the foreground, stating 'Value must be greater than 1/1/2018.' The 'OK' button is highlighted.

Contact Management Database

Table Tools

Fields

Properties

Formatting

Validation

All Access Obj...

Tables

- Employees
- My Customers
- Tasks
- Contacts
- Orders
- Settings

Queries

- Contacts Extended
- Contacts Query

Forms

- Contact Details
- Contact List
- TaskDetails
- TaskDS
- Welcome

Reports

- Directory

Datasheet View

Record: 1 of 1 No Filter Search Num Lock

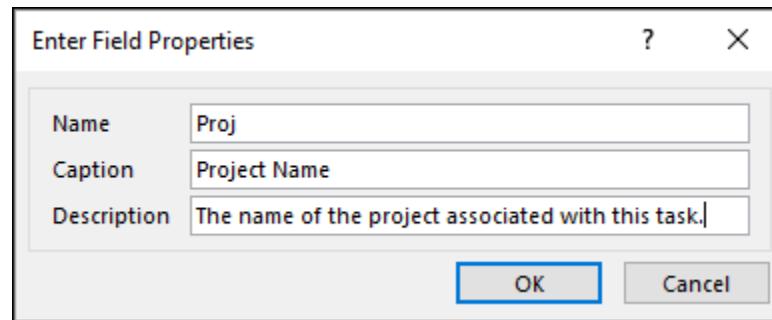
Task Title	Priority	Status	Description	Start Date	Due Date	Attachments
*	(2) Normal	Not Started		12/31/2017		0(0)
*	(2) Normal	Not Started				0(0)

Contact Management Database

Value must be greater than 1/1/2018.

OK Help

Change Field Captions



Change Field Sizes

The screenshot shows the Microsoft Access ribbon with the 'Table Tools' tab selected. Under the 'Fields' tab, the 'Properties' group is active, displaying the 'Task Title' field's properties. The 'Data Type' is set to 'Short Text' and the 'Format' is set to 'Formatting'. The 'Field Size' is currently set to 25. The 'Validation' section shows that 'Required' is checked. In the 'Formatting' section, the currency symbol '\$' is selected. The main area shows a table named 'Tasks' with one record. The 'Task Title' column contains the value 'Access training'. The table has columns: ID, Project Name, Task Title, Priority, Status, Description, and Start Date.

ID	Project Name	Task Title	Priority	Status	Description	Start Date
*	(New)	Access training	(2) Normal	Not Started		2/1/2011

Properties for Task Title:

- Data Type: Short Text
- Format: \$
- Field Size: 25
- Validation:
 - Required
 - Unique
 - Indexed

Change Field Data Types

The screenshot shows the Microsoft Access application interface. The title bar reads "Contact Management Database". The ribbon tabs are "File", "Home", "Create", "External Data", "Database Tools", "Fields", and "Table". The "Fields" tab is selected. A context menu is open over the "Task Title" field in the "Tasks" table, which is currently set to "Short Text". The menu includes options like "Required", "Unique", "Indexed", and "Validation". The "Format" dropdown shows "\$ % ,". The "Data Type" dropdown is open, showing "Short Text" as the current selection. Other data types listed include "Text", "Number", "Large Number", "Date/Time", "Currency", "Yes/No", "OLE Object", "Hyperlink", and "Attachment". The "Tasks" table has columns: ID, Project Name, Task Title, Priority, and Start Date. The "Task Title" column is highlighted with a red border. The "Start Date" cell contains the value "2/1/2011". The left pane shows the navigation bar with "Tables" expanded, showing "Employees", "My Customers", and "Tasks" (which is selected). The "Views" section shows "Datasheet View" and "Form View". The status bar at the bottom shows "Record: 1 of 1", "Search", and "Num Lock".

ID	Project Name	Task Title	Priority	Start Date
*	(New)	Access training	(2) Normal	Not Started

Configure Fields to Auto Increment

The screenshot shows the Microsoft Access application in Design view. The ribbon at the top is set to 'Table Tools' and 'Design'. The main area displays 'Table1' with three fields: 'ID' (Number), 'Field1' (Number), and 'AutoNumber' (AutoNumber). The 'AutoNumber' field is selected, and its properties are shown in the 'Field Properties' pane below. The 'General' tab of the properties pane is selected, showing settings like 'Field Size: Long Integer' and 'New Values: Increment'. A note in the pane states: 'The data type determines the kind of values that users can store in the field. Press F1 for help on data types.' The status bar at the bottom indicates 'Design view. F6 = Switch panes. F1 = Help.'

Field Name	Data Type	Description (Optional)
ID	Number	
Field1	Number	
AutoNumber	AutoNumber	

Field Properties

General

Field Size	Long Integer
New Values	Increment
Format	
Caption	
Indexed	No
Text Align	General

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

Design view. F6 = Switch panes. F1 = Help.

Set Default Values

The screenshot shows the Microsoft Access application in Design view. The ribbon at the top has 'Table Tools' selected under 'Design'. The main area displays 'Table1' with three fields: 'ID' (Date/Time type), 'Field1' (Number type), and 'AutoNumber' (AutoNumber type). The 'ID' field's properties are open in a pane below, showing the 'General' tab with the 'Default Value' property set to '=Date()'.

Table1

Field Name	Data Type	Description (Optional)
ID	Date/Time	
Field1	Number	
AutoNumber	AutoNumber	

Field Properties

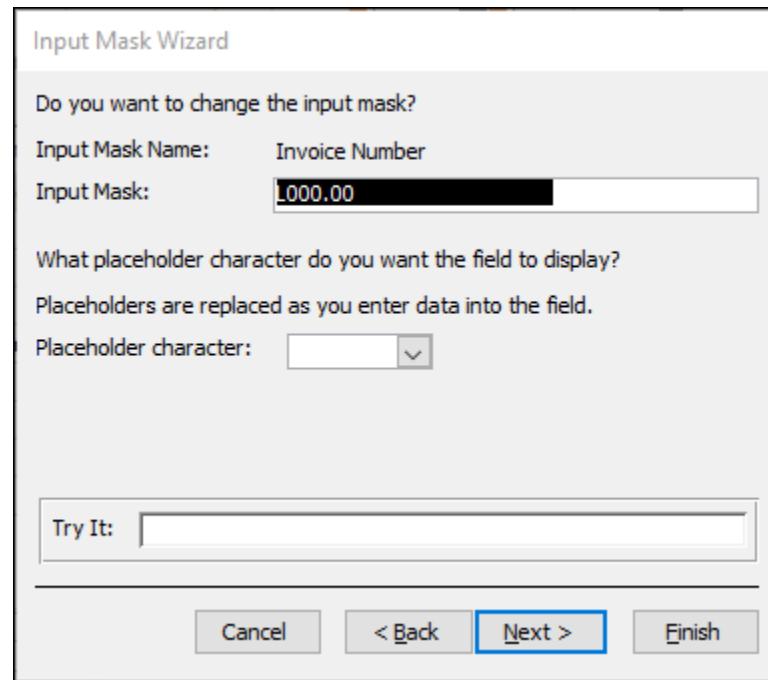
General **Lookup**

Format	
Input Mask	
Caption	
Default Value	=Date()
Validation Rule	
Validation Text	
Required	Yes
Indexed	Yes (No Duplicates)
IME Mode	No Control
Text Sentence Mode	None
Text Align	General
Show Date Picker	For dates

A value that is automatically entered in this field for new items

Design view. F6 = Switch panes. F1 = Help.

Using Input Masks



Delete Fields

The screenshot shows the Microsoft Access application in Design view. The ribbon at the top has 'Table Tools' selected under the 'Design' tab. The 'Home' tab is also visible. The main area displays the 'Invoices' table with the following fields:

Field Name	Data Type	Description (Optional)
Invoice ID	AutoNumber	
Order ID	Number	
Invoice Date	Date/Time	
InvoiceNumber	Short Text	
Due Date	Date/Time	
Tax	Currency	
Shipping	Currency	
Amount Due	Currency	

The 'InvoiceNumber' field is highlighted with a red outline. Below the table, the 'Field Properties' pane is open, showing the 'General' tab with the following settings:

Field Size	255
Format	L000.00;;_
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	Phrase Predict
Text Align	General

A tooltip message in the bottom right corner states: "A field name can be up to 64 characters long, including spaces. Press F1 for help on field names."

At the bottom left, it says "Design view. F6 = Switch panes. F1 = Help." At the bottom right, there are status indicators for Num Lock, a clipboard icon, and a save icon.

Module Three: Review Questions

1. What are 5 different ways to create tables?

2. Hiding a field deletes data from the database.
 - a) True
 - b) False

Module Three: Review Questions

3. Where can you add a table description to explain the purpose of a table to other users?
 - a) Create tab
 - b) Right-click the table on the Navigation pane; select Table Properties from the context menu
 - c) Application parts
 - d) None of the above
4. You can append records from Outlook Contacts to an existing table.
 - a) True
 - b) False

Module Three: Review Questions

5. How can you tell if a column has been sorted or filtered?

6. Which of the following allows you to add a new field to a table?
 - a) TAB to the “Click to add” field and start typing
 - b) Click on the “Click to add” field and start typing

Module Three: Review Questions

7. Which option allows you to display a message if a user enters incorrect data into a field?
 - a) Validation Rule
 - b) Data Type
 - c) Input Mask
 - d) Default value
8. Which option allows you to define a value to show automatically in a field?
 - a) Validation rule
 - b) Default value
 - c) Input mask
 - d) Data type

Module Three: Review Questions

9. You can have multiple auto-incremented fields in one table.
 - a) True
 - b) False
10. Deleting a field does not remove data in that field from the database.
 - a) True
 - b) False

Module Three: Review Questions

1. What are 5 different ways to create tables?

You can use the Create tab and select Table to build one from scratch; you can import data from external sources; you can link data, you can import tables from other databases; and you can create a table from a template with application parts.

2. Hiding a field deletes data from the database.

- a) True
- b) False

Module Three: Review Questions

3. Where can you add a table description to explain the purpose of a table to other users?
 - a) Create tab
 - b) Right-click the table on the Navigation pane; select Table Properties from the context menu
 - c) Application parts
 - d) None of the above
4. You can append records from Outlook Contacts to an existing table.
 - a) True
 - b) False

Module Three: Review Questions

5. How can you tell if a column has been sorted or filtered?

A sorted column has a thin arrow pointing in the sorting direction. A filtered column has a small funnel next to the sort/filter arrow for the column.

6. Which of the following allows you to add a new field to a table?
 - a) TAB to the “Click to add” field and start typing
 - b) Click on the “Click to add” field and start typing

Module Three: Review Questions

7. Which option allows you to display a message if a user enters incorrect data into a field?
 - a) Validation Rule
 - b) Data Type
 - c) Input Mask
 - d) Default value
8. Which option allows you to define a value to show automatically in a field?
 - a) Validation rule
 - b) Default value
 - c) Input mask
 - d) Data type

Module Three: Review Questions

9. You can have multiple auto-incremented fields in one table.
 - a) True
 - b) False
10. Deleting a field does not remove data in that field from the database.
 - a) True
 - b) False

Module Four: Create Queries

Queries are a way to find data within a table. In this module, we'll cover how to create and modify queries. We'll also explain how to create calculated fields and grouping within queries.

Success is simple. Do what's right, the right way, at the right time.
Arnold H. Glasow

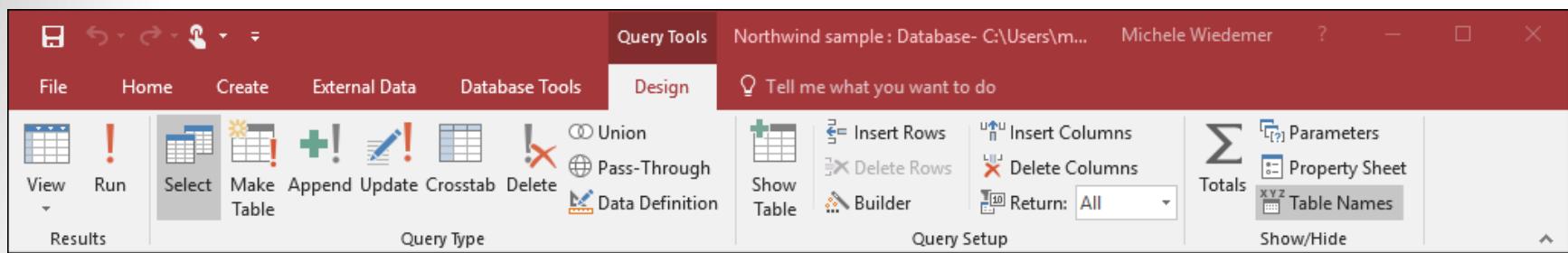


Lesson: Create a Query

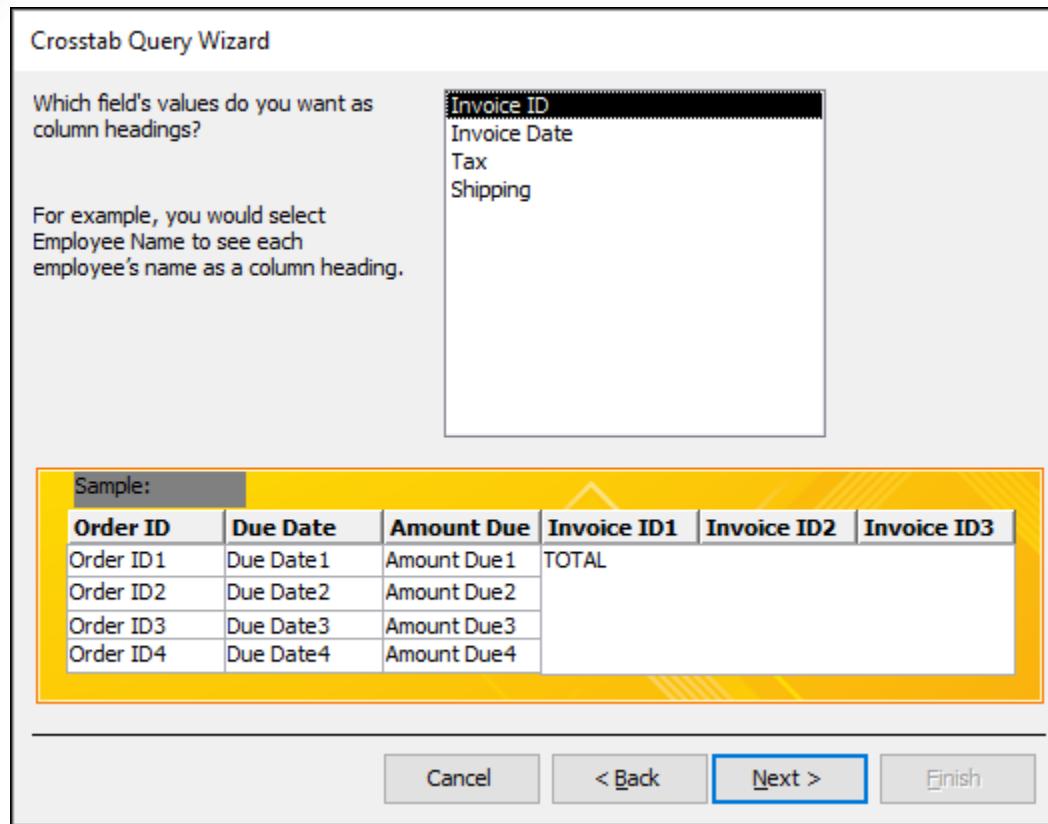
In this lesson, we'll introduce the following topics:

- Run a query
- Create a crosstab query
- Create a parameter query
- Create an action query
- Create a multi-table query
- Save a query

Run a Query



Create a Crosstab Query

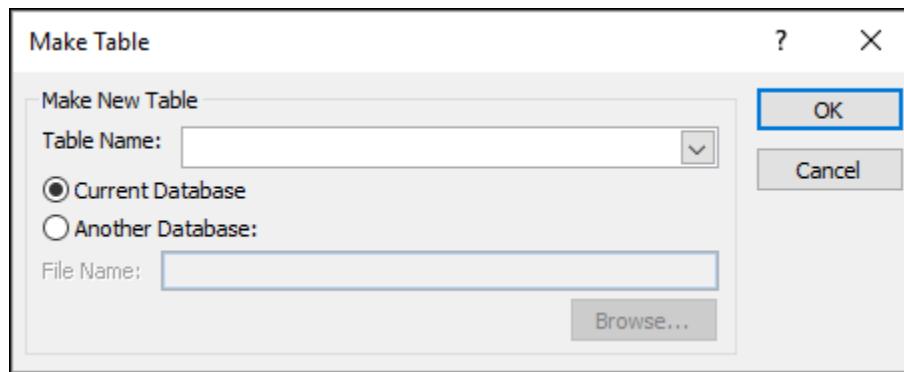


Create a Parameter Query

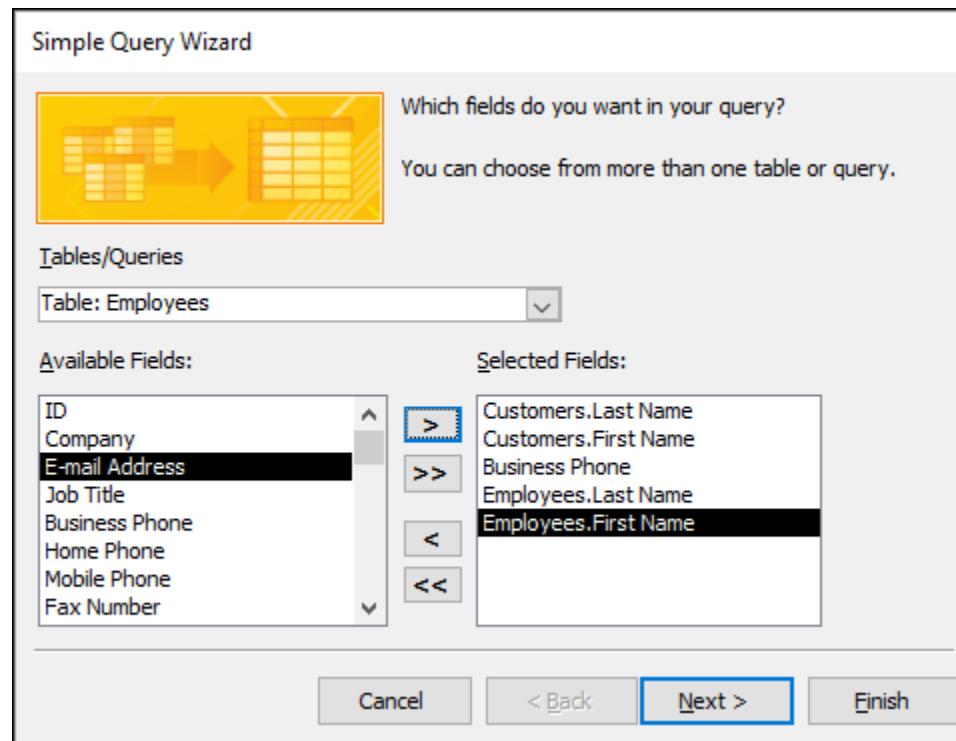
The screenshot shows the Microsoft Access 2016 interface. The ribbon is visible at the top with tabs for File, Home, Create, External Data, and Database Tools. The Home tab is selected. The main area displays a query named "Order Summary" in the Datasheet View. The query results show data from the Orders table, including Order Date, Shipped Date, Taxes, Order ID, Employee, Customer, Sub Total, and Shipping Fee. The first record is highlighted. The left pane shows a list of other queries: Invoices_Crosstab, Customers Extended, Customers Query, Employees Extended, Inventory, Inventory on Hold, Inventory on Order, Inventory Purchased, Inventory Sold, Invoice Data, Order Details Extended, Order Price Totals, Order Subtotals, Order Summary, Product Category Sales by..., Product Orders, and Product Purchases. The "Order Summary" query is currently selected and highlighted with a pink background.

Order Date	Shipped Date	Taxes	Order ID	Employee	Customer	Sub Total	Shipping Fee
3/24/2006	3/24/2006	\$0.00	40	Mariya Sergienko	Company J	\$598.00	\$9.00
3/22/2006	3/24/2006	\$0.00	39	Jan Kotas	Company H	\$1,275.00	\$5.00
3/10/2006	3/11/2006	\$0.00	38	Anne Hellung-Lar	Company BB	\$13,800.00	\$10.00
3/6/2006	3/9/2006	\$0.00	37	Laura Giussani	Company F	\$680.00	\$12.00
2/23/2006	2/25/2006	\$0.00	36	Mariya Sergienko	Company C	\$1,930.00	\$7.00

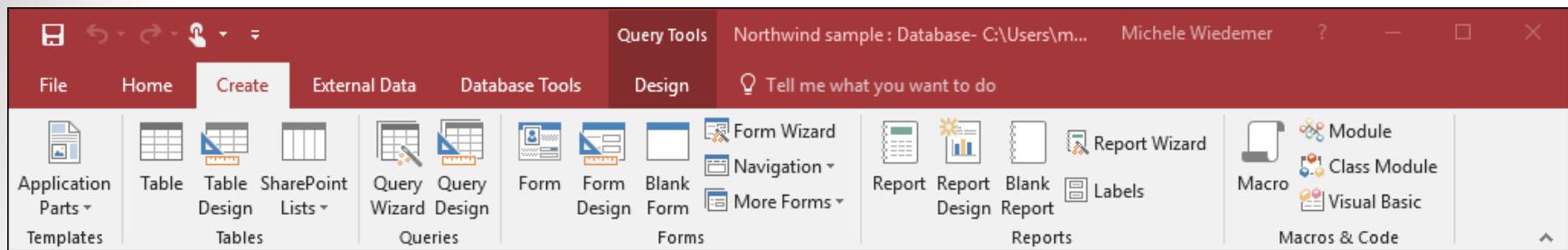
Create an Action Query



Create a Multi-Table Query



Save a Query



Lesson: Modify a Query

In this lesson, we'll introduce the following topics:

- Rename a query
- Add fields
- Remove fields
- Hide fields
- Sort data within queries
- Format fields within queries

Rename a Query

The screenshot shows the Microsoft Access ribbon interface. The 'Create' tab is selected. The 'Queries' section is open, displaying a list of queries: 'Invoices_Crosstab', 'Customers Extended', and 'Customers'. The 'Customers' query is selected and has a context menu open over it. The menu options include: Open, Design View, Export, Rename (which is highlighted), Hide in this Group, Delete, Cut, Copy, Paste, and Object Properties.

The main workspace displays three tables: 'Orders', 'Inventory to Reorder', and a list of products under 'Quick Links'.

Table Headers:

- Orders**: Status, Date, Customer
- Inventory to Reorder**: Product

Table Data:

	Status	Date	Customer
81	New	4/25/2006	Company C
80	New	4/25/2006	Company D

Product
Northwind Traders Boysenberry Jam
Northwind Traders Dried Pears
Northwind Traders Curry Sauces
Northwind Traders Fruit Cake
Northwind Traders Scones
Northwind Traders Beer
Northwind Traders Clam Chowder
Northwind Traders Chocolate Fudge

Quick Links:

- [View Inventory](#)
- [View Orders](#)
- [View Customers](#)
- [View Purchase Orders](#)
- [View Suppliers](#)
- [View Employees](#)
- [View Shippers](#)
- [Sales Reports](#)

Bottom status bar: Double-click to go to details, Num Lock, keyboard icons.

Add Fields

Screenshot of Microsoft Access Query Design View showing the creation of a query named "Customers Query".

The ribbon tabs shown are: File, Home, Create, External Data, Database Tools, and Design.

The "Design" tab is selected, showing the following interface:

- Query Type:** Customers Query
- Tables:** Employees, Customers, Orders, and Orders Status.
- Relationships:** Employees is connected to Customers. Customers is connected to Orders. Orders is connected to Orders Status.
- Field List:** A grid where fields from the four tables are listed:

Field:	Employees_Last Name	Employees_First Name	Employees_Business F	Status ID
Table:	Employees	Employees	Employees	Orders Status
Sort:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Show:				
Criteria:				
or:				

Remove Fields

The screenshot shows the Microsoft Access Query Design View. The title bar indicates the database is "Northwind sample : Database- C:\Users\m...". The user is Michele Wiedemer. The ribbon is set to "Query Tools" and "Design".

The left pane displays a list of queries under the heading "Queries". The query "Customers Query" is selected and highlighted with a red border. Other listed queries include "Invoices_Crosstab", "Customers Extended", "Employees Extended", "Inventory", "Inventory on Hold", "Inventory on Order", "Inventory Purchased", "Inventory Sold", "Invoice Data", "Order Details Extended", "Order Price Totals", "Order Subtotals", "Order Summary", "Product Category Sales by...", "Product Orders", and "Product Purchases".

The main area shows the query design grid for "Customers Query". The grid has four columns corresponding to the tables: "Employees", "Customers", "Orders", and "Orders Status". The "Employees" table has fields: ID, Company, Last Name, First Name, and E-mail Address. The "Customers" table has fields: ID, Company, Last Name, First Name, and E-mail Address. The "Orders" table has fields: Order ID, Employee ID, Customer ID, Order Date, and Shipped Date. The "Orders Status" table has fields: Status ID and Status Name. Relationships are established between the tables: Employees and Customers share the ID field; Customers and Orders share the Customer ID field; and Orders and Orders Status share the Order ID field.

The bottom part of the screen shows the "Field" section of the query grid. It lists the fields from the four tables: Employees_Last Name, Employees_First Name, Employees_Business F, Status ID, and Orders_Status. The "Table" column shows the source table for each field: Employees, Employees, Employees, and Orders Status respectively. The "Sort" column contains checkboxes for sorting by each field. The "Criteria" column contains the word "or:" followed by a blank line. The "Show" column contains checkboxes for each field, with the "Status ID" checkbox checked.

Hide Fields

The screenshot shows the Microsoft Access Query Design View. The ribbon is set to 'Design' mode. The 'Query Tools' tab is selected, and the status bar shows 'Northwind sample : Database- C:\Users\m... Michele Wiedemer'. The 'Show/Hide' group on the ribbon has the 'Show/Hide' button highlighted.

The left pane displays a list of queries under 'Queries':

- Invoices_Crosstab
- Customers Extended
- Customers Query** (highlighted)
- Employees Extended
- Inventory
- Inventory on Hold
- Inventory on Order
- Inventory Purchased
- Inventory Sold
- Invoice Data
- Order Details Extended
- Order Price Totals
- Order Subtotals
- Order Summary
- Product Category Sales by...
- Product Orders
- Product Purchases

The main area shows the 'Customers Query' design. It includes four tables: Employees, Customers, Orders, and Orders Status. Relationships are established between Employees and Customers, and between Customers and Orders. The Orders table is linked to the Orders Status table. The 'Show/Hide' button is located in the ribbon's 'Query Tools' tab.

The bottom pane shows the query grid:

Field:	Employees_Last Name	Employees_First Name	Employees_Business F			
Table:	Employees	Employees	Employees			
Sort:						
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Criteria:						
or:						

The third column of the grid, 'Employees_Business F', has its checkbox checked, indicating it is currently displayed in the query results.

Sort Data Within Queries

The screenshot shows the Microsoft Access 2016 interface with the 'Northwind sample' database open. The 'Home' tab is selected in the ribbon. The 'Queries' list on the left shows various queries, with 'Inventory' selected and highlighted in pink. The main grid displays product information: Product ID, Product Name, Product Code, Qty Purchased, Qty Sold, and Qty On Hold. A context menu is open over the 'Product Code' column, specifically over the cell for 'NWTB-1'. This menu is titled 'Sort & Filter' and includes options for 'Sort A to Z', 'Sort Z to A', and 'Clear filter from Product Code'. Below these options is a 'Text Filters' section containing a list of checked filters: '(Select All)', '(Blanks)', 'NWTB-1', 'NWTB-34', 'NWTB-43', 'NWTB-81', 'NWTB-87', 'NWTBGM-19', 'NWTBGM-21', and 'NWTBGM-85'. At the bottom of the menu are 'OK' and 'Cancel' buttons. The status bar at the bottom indicates 'Record: 14 1 of 45'.

Product ID	Product Name	Product Code	Qty Purchased	Qty Sold	Qty On Hold
1	Northwind Traders Chai	NWTB-1	200	200	
3	Northwind Traders Syrup	NWTCO-3	40	40	
4	Northwind Traders Cajun Seasoning	NWTCO-4	100	40	
5	Northwind Traders Olive Oil	NWTO-5			
6	Northwind Traders Boysenberry Spread	NWTJP-6	120	0	
7	Northwind Traders Dried Pears	NWTDFN-7			
8	Northwind Traders Curry Sauce	NWTS-8			
14	Northwind Traders Walnuts	NWTDFN-14			
17	Northwind Traders Fruit Cocktail	NWTCFV-17			
19	Northwind Traders Chocolate Biscuits Mix	NWTBGM-19			
20	Northwind Traders Marmalade	NWTJP-6			
21	Northwind Traders Scones	NWTBGM-21			
34	Northwind Traders Beer	NWTB-34			
40	Northwind Traders Crab Meat	NWTCM-40			
41	Northwind Traders Clam Chowder	NWTSO-41			
43	Northwind Traders Coffee	NWTB-43			
48	Northwind Traders Chocolate	NWTCA-48			
51	Northwind Traders Dried Apples	NWTDFN-51			
52	Northwind Traders Long Grain Rice	NWTG-52			
56	Northwind Traders Gnocchi	NWTP-56			

Format Fields Within Queries

The screenshot shows the Microsoft Access ribbon interface with the 'Query Tools' tab selected. The 'Design' tab is active. The left pane displays a list of queries under the 'Queries' category, with 'Inventory on Order' highlighted. The main pane shows the 'Purchase Order Details' query in design view, listing fields: ID, Purchase Order ID, Product ID, Quantity, and Unit Cost. Below this is the query's SQL code:

```
Field: Product ID: Product ID
Table: Purchase Order Detail
Total: Sum
Sort: 
Group By: 
Criteria: or: False
```

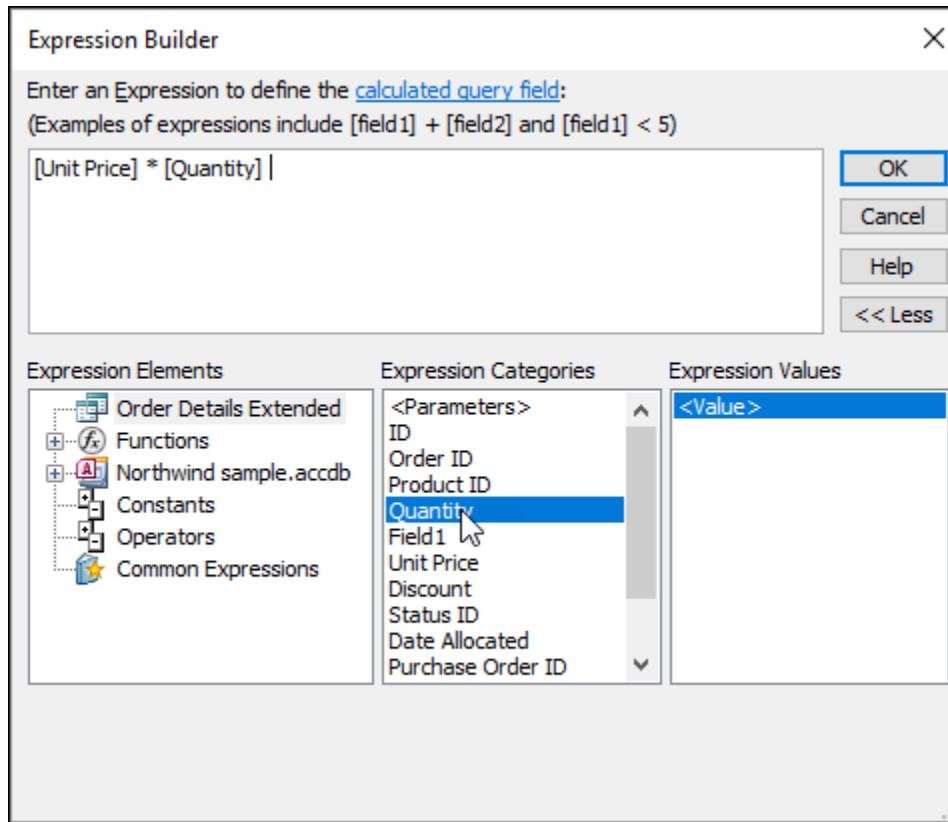
The bottom right pane is the 'Property Sheet' dialog, set to 'Field Properties'. It shows the 'General' tab selected, with the 'Format' property currently open, displaying a dropdown menu.

Lesson: Create Calculated Fields and Grouping Within Queries

In this lesson, we'll introduce the following topics:

- Add calculated fields
- Set filtering criteria
- Group and summarize data
- Group data by using comparison operators
- Group data by using arithmetic and logical operators

Add Calculated Fields



Set Filtering Criteria

The screenshot shows the Microsoft Query Tools interface in 'Design' mode. The title bar indicates the database is 'Northwind sample : Database- C:\Users\m...'. The ribbon tabs include File, Home, Create, External Data, Database Tools, and Design. The 'Design' tab is selected.

The main area displays the 'Order Summary' query setup. It includes:

- Query Type:** Order Summary
- Tables:** Orders Status, Orders, and Order Price Totals.
- Fields:** Order ID, Employee ID, Customer ID, Order Date, Shipped Date, OrderID, and Price Total.
- Sort:** Descending (selected for Order ID).
- Criteria:** An empty criteria grid.

The left sidebar lists other queries, with 'Order Summary' highlighted. The bottom status bar shows 'Form View', 'Num Lock', 'SQL', and a small icon.

Group Data by using Comparison Operators

Operator	Purpose	Example
<	Returns True if the first value is less than the second value.	Value1 < Value2
<=	Returns True if the first value is less than or equal to the second value.	Value1 <= Value2
>	Returns True if the first value is greater than the second value.	Value1 > Value2
>=	Returns True if the first value is greater than or equal to the second value.	Value1 >= Value2
=	Returns True if the first value is equal to the second value.	Value1 = Value2
<>	Returns True if the first value is not equal to the second value.	Value1 <> Value2

Group Data Using Arithmetic Operators

Operator	Purpose	Example
+	Sum two numbers.	[Subtotal]+[SalesTax]
-	Find the difference between two numbers or indicate the negative value of a number.	[Price]-[Discount]
*	Multiply two numbers.	[Quantity]*[Price]
/	Divide the first number by the second number.	[Total]/[ItemCount]
\	Round both numbers to integers, divide the first number by the second number, and then truncate the result to an integer.	[Registered]\[Rooms]
Mod	Divide the first number by the second number, and then return only the remainder.	[Registered] Mod [Rooms]
^	Raise a number to the power of an exponent.	Number ^ Exponent

Group Data Using Logical Operators

Operator	Purpose	Example
And	Returns True when Expr1 and Expr2 are true.	Expr1 And Expr2
Or	Returns True when either Expr1 or Expr2 is true.	Expr1 Or Expr2
<u>Eqv</u>	Returns True when both Expr1 and Expr2 are true, or when both Expr1 and Expr2 are false.	Expr1 <u>Eqv</u> Expr2
Not	Returns True when Expr is not true.	Not Expr
<u>Xor</u>	Returns True when either Expr1 is true or Expr2 is true, but not both.	Expr1 <u>Xor</u> Expr2

Group and Summarize Data

The screenshot shows the Microsoft Access Query Tools ribbon with the 'Design' tab selected. The 'Query Type' dropdown menu is open, displaying various aggregation functions: Sum, Avg, Min, Max, Count, StDev, Var, First, Last, Expression, and Where. The 'Sum' option is currently selected. The main query grid displays the 'Order Details Extended' table with fields: ID, Order ID, Product ID, Quantity, Field1, and Unit Price. The 'Table' dropdown in the query grid is set to 'Order Details Extended'. The 'Field' dropdown is set to 'OrderID: Order ID'. The 'Total' dropdown is set to 'Sum'. The 'Criteria' dropdown is empty. The 'Show' checkbox is checked. The 'Group By' dropdown is open, showing the 'Group By' option selected. The status bar at the bottom indicates 'Form View', 'Num Lock', 'SQL', and a small icon.

Module Four: Review Questions

1. When you double-click a query in the Navigation pane, what happens?
 - a) The query opens in Design view.
 - b) The query runs and opens in Datasheet view.
 - c) You can rename the query.
 - d) The SQL editor opens.
2. You can add more than one table's fields to your select query.
 - a) True
 - b) False

Module Four: Review Questions

3. Which type of query would you use to create a new table from query results?
 - a) Crosstab Query
 - b) Action Query
 - c) Multi-Table Query
 - d) None of the above
4. Can you sort or filter query results?
 - a) Yes
 - b) No

Module Four: Review Questions

5. Removing fields from a query deletes the data from your database.
 - a) True
 - b) False
6. You select the _____ tab (with the Design view active) to open the _____ pane on the right side of the screen, where you can change a query field format.

Module Four: Review Questions

7. Which column in the Expression Builder allows you to add built-in functions to an expression for a calculated field?
 - a) Expression Elements
 - b) Expression Categories
 - c) Expression Values
8. You should be in _____ view for a query to set filtering criteria.
 - a) Datasheet
 - b) SQL
 - c) Design

Module Four: Review Questions

9. Name some of the comparison, arithmetic, and logical operators you can use in expressions and calculated fields.

10. Which option on the Query Tools Design tab (in Query Design view) allows you to enable grouping information for a field?
 - a) Parameters
 - b) Totals
 - c) Property Sheet
 - d) Builder

Module Four: Review Questions

1. When you double-click a query in the Navigation pane, what happens?
 - a) The query opens in Design view.
 - b) The query runs and opens in Datasheet view.
 - c) You can rename the query.
 - d) The SQL editor opens.
2. You can add more than one table's fields to your select query.
 - a) True
 - b) False

Module Four: Review Questions

3. Which type of query would you use to create a new table from query results?
 - a) Crosstab Query
 - b) Action Query
 - c) Multi-Table Query
 - d) None of the above
4. Can you sort or filter query results?
 - a) Yes
 - b) No

Module Four: Review Questions

5. Removing fields from a query deletes the data from your database.
 - a) True
 - b) False
6. You select the _____ tab (with the Design view active) to open the _____ pane on the right side of the screen, where you can change a query field format.

You select the Query Tools Design tab (with the Design view active) to open the Property Sheet pane on the right side of the screen, where you can change a query field format.

Module Four: Review Questions

7. Which column in the Expression Builder allows you to add built-in functions to an expression for a calculated field?
 - a) Expression Elements
 - b) Expression Categories
 - c) Expression Values
8. You should be in _____ view for a query to set filtering criteria.
 - a) Datasheet
 - b) SQL
 - c) Design

Module Four: Review Questions

9. Name some of the comparison, arithmetic, and logical operators you can use in expressions and calculated fields.

10. Which option on the Query Tools Design tab (in Query Design view) allows you to enable grouping information for a field?
 - a) Parameters
 - b) **Totals**
 - c) Property Sheet
 - d) Builder

Module Five: Create Forms

Forms allow users to quickly find, enter and edit data. In this module, we'll cover how to create forms and configure form controls. We'll also introduce formatting for forms.

*Logic will get you from A to B.
Imagination will take you everywhere.*

Albert Einstein

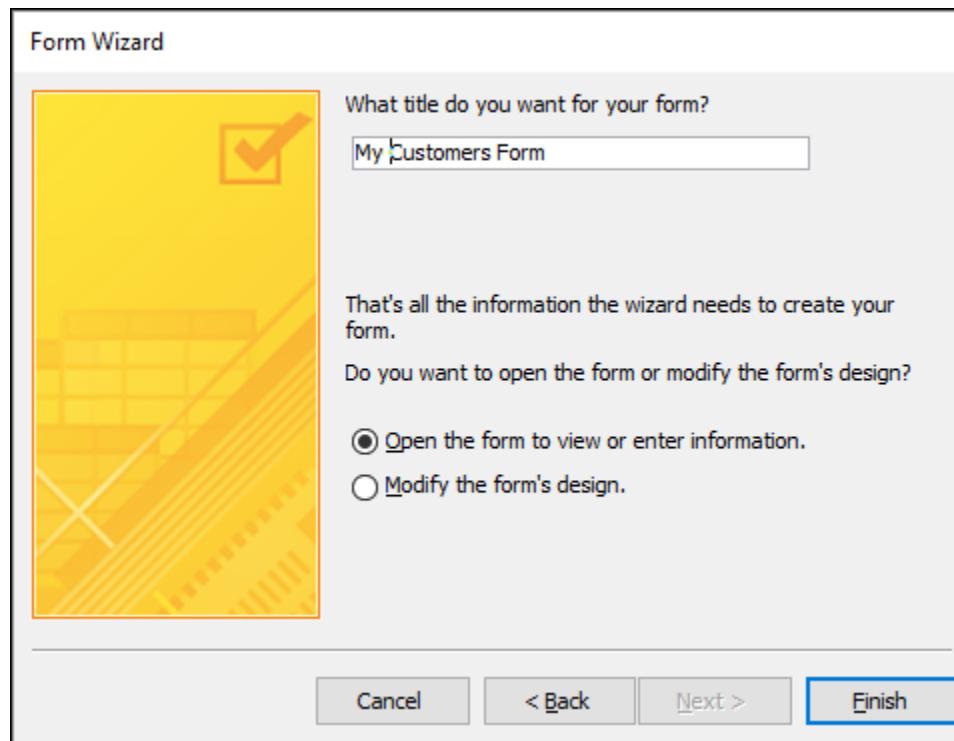


Lesson: Create Forms

In this lesson, we'll introduce the following topics:

- Create a form
- Change form view
- Create a form from a template with application parts
- Save a form

Create a Form

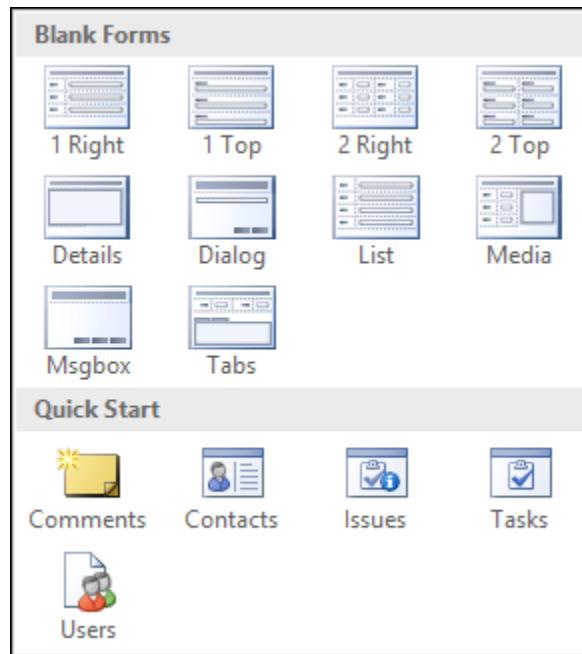


Change Form View

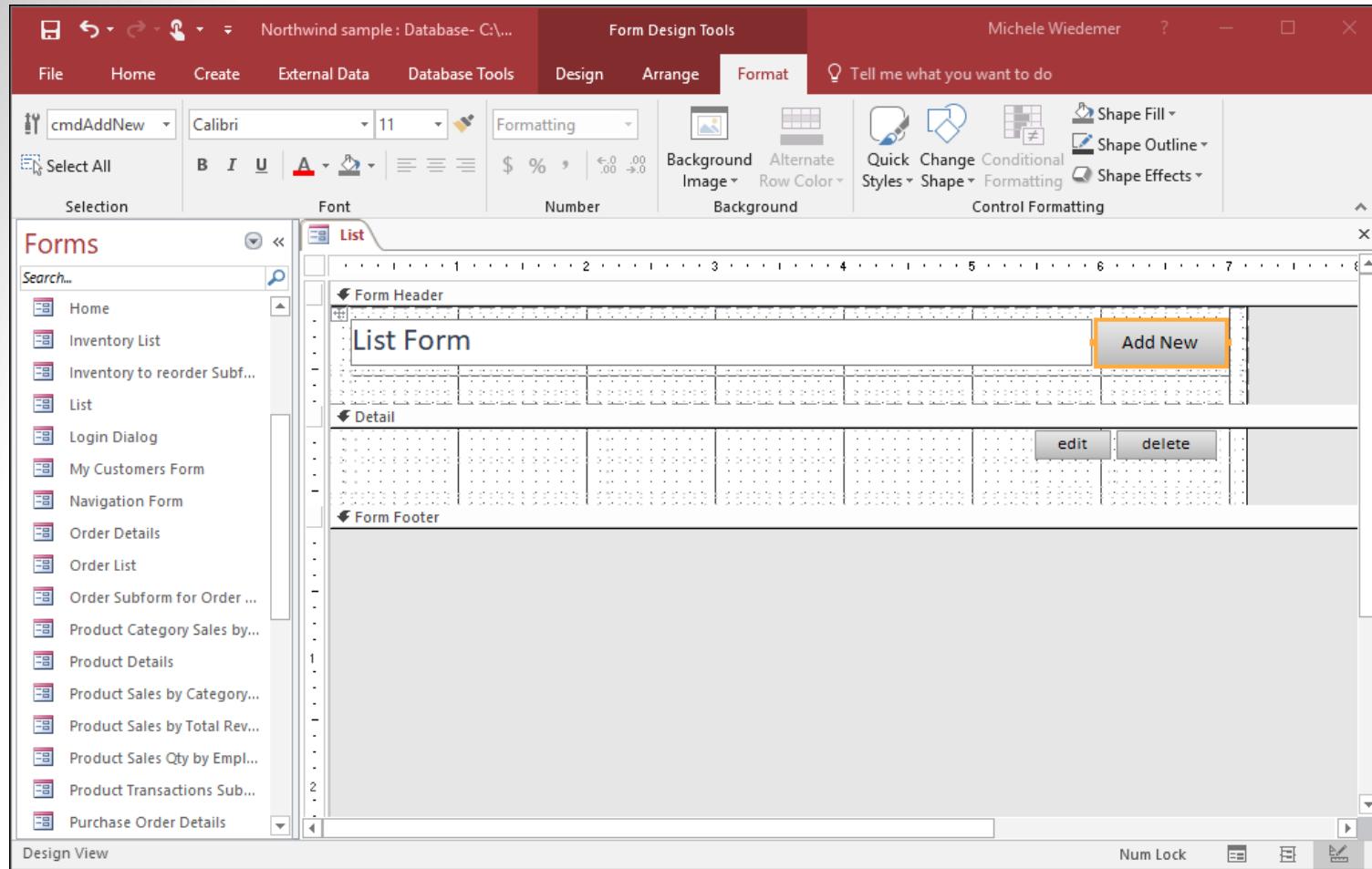
The screenshot shows the Microsoft Access 2016 interface with the following details:

- File ribbon tab:** Home.
- Home ribbon tab:** Active.
- View dropdown menu:** Form View is selected.
- Form Title:** My Customers Form.
- Form Fields:** The form contains fields for Last Name (Bedecs), First Name (Anna), E-mail Address (empty), Job Title (Owner), Business Phone ((123)555-0100), Address (123 1st Street), City (Seattle), State/Province (WA), ZIP/Postal Code (99999), and Country/Region (USA).
- Record navigation:** Record: 1 of 30, No Filter, Search.
- Text Formatting toolbar:** Shows various font and style options.
- Records toolbar:** Includes buttons for New, Save, Totals, Spelling, Refresh, Filter, Find, and Delete.
- Sort & Filter toolbar:** Includes Ascending, Descending, Advanced, Remove Sort, and Toggle Filter.
- Database Tools ribbon tab:** Available.
- User Information:** Michele Wiedemer.

Create a Form From a Template with Application Parts



Save a Form



Lesson: Configure Form Controls

In this lesson, we'll introduce the following topics:

- Move form controls
- Add form controls
- Modify data sources
- Remove form controls
- Set form control properties
- Manage labels
- Add sub-forms

Move Form Controls

The screenshot shows the Microsoft Access application in Design View. The ribbon at the top has tabs for File, Home, Create, External Data, Database Tools, Design (which is selected), Arrange, Format, and a search bar. The main area displays a form titled "My Customers Form". On the left, a navigation pane lists several forms, with "My Customers Form" highlighted. The form itself contains the following controls:

- First Name: A text box containing "Anna", which is currently selected and has a small move handle.
- Last Name: A text box containing "Bedecs".
- E-mail Address: A text box.
- Job Title: A text box containing "Owner".
- Business Phone: A text box containing "(123)555-0100".
- Address: A large text box containing "123 1st Street".
- City: A text box containing "Seattle".
- State/Province: A text box containing "WA".
- ZIP/Postal Code: A text box containing "99999".
- Country/Region: A text box containing "USA".

At the bottom of the form, there is a record navigation bar with buttons for Record, 1 of 30, and Search.

Add Form Controls

The screenshot shows the Microsoft Access ribbon interface with the "Form Layout Tools" tab selected. The ribbon tabs include File, Home, Create, External Data, Database Tools, Design (selected), Arrange, Format, and a search bar. On the far right of the ribbon are buttons for Michele Wiedemer, Help, Minimize, Maximize, and Close.

The left side of the screen features a navigation pane titled "Forms" with a search bar. Below the search bar is a list of form names:

- Home
- Inventory List
- Inventory to reorder Subf...
- List
- Login Dialog
- My Customers Form
- Navigation Form
- Order Details
- Order List
- Order Subform for Order ...
- Product Category Sales by...
- Product Details
- Product Sales by Category...
- Product Sales by Total Rev...
- Product Sales Qty by Empl...
- Product Transactions Sub...
- Purchase Order Details

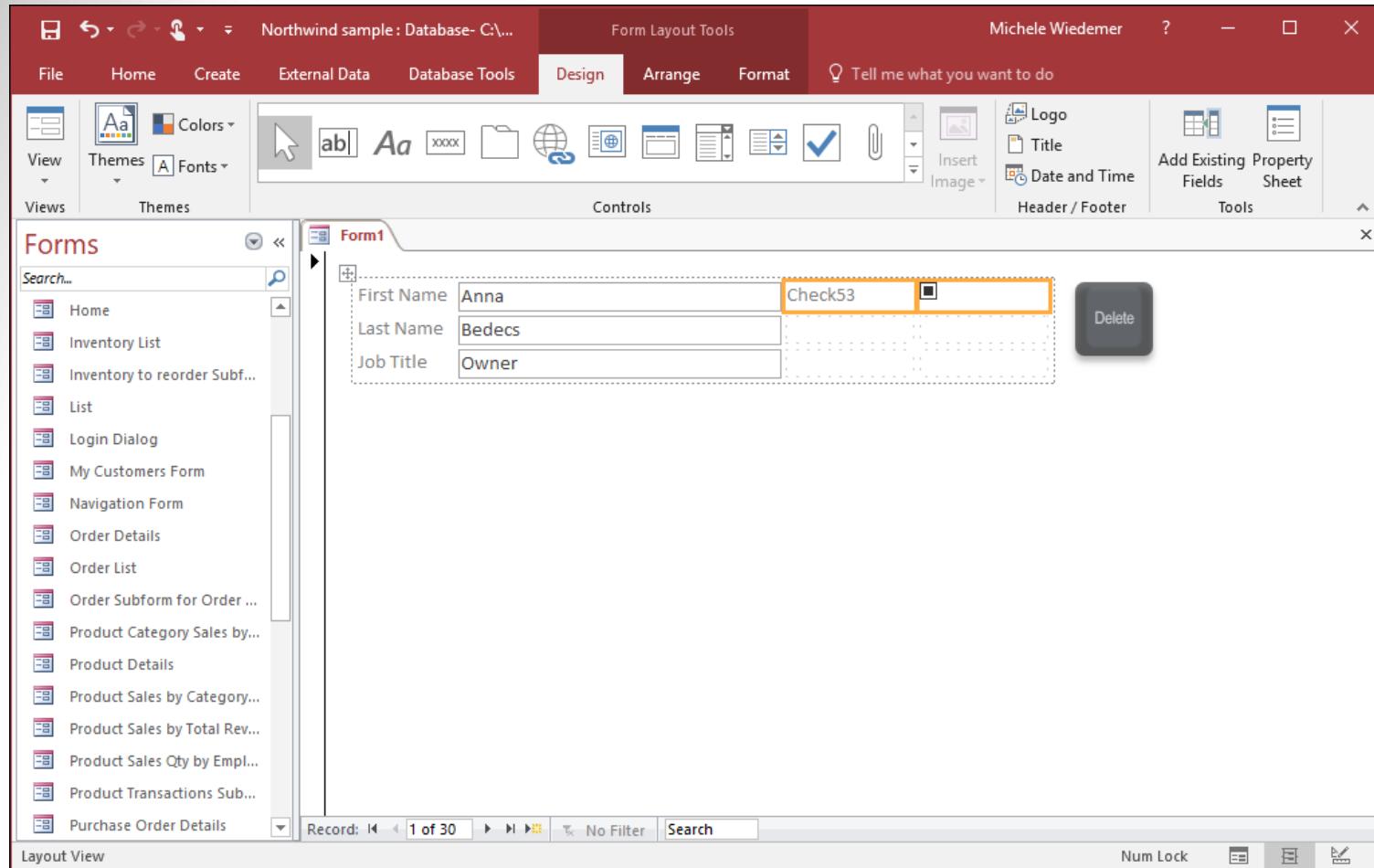
The main workspace displays a form titled "Form1". Inside the form, there are three text input fields with the following data:

Control	Value
First Name	Anna
Last Name	Bedecs
Job Title	Owner

The "Controls" tab of the ribbon is selected, showing icons for various controls like ab, Aa, Themes, Colors, Fonts, Insert Image, Logo, Title, Date and Time, Add Existing Fields, Property Sheet, Header / Footer, and Tools.

At the bottom of the screen, there is a status bar showing "Record: 14 < 1 of 30 > No Filter Search" and a set of small navigation icons.

Remove Form Controls



Set Form Control Properties

The screenshot shows the Microsoft Access application in Design View. The main window displays the 'Inventory List' form, which contains a table titled 'Product' with columns: Product, Total Inventory, Allocated Inventory, Available Inventory, Inventory Due from Supplier, and Combin Total. The first row of the table is selected, highlighted with an orange border. The 'Property Sheet' dialog is open on the right side of the screen, showing properties for the selected text box. The 'Format' tab is selected, displaying various properties such as Decimal Places (Auto), Visible (Yes), Show Date Picker (For dates), Width (1.5382"), Height (0.2396"), Top (0.0208"), Left (0.125"), Back Style (Normal), Back Color (#FFFFFF), Border Style (Solid), Border Width (Hairline), Border Color (#COCOCO), Special Effect (Flat), Scroll Bars (None), Font Name (Calibri), Font Size (11), Text Align (General), Font Weight (Normal), Font Underline (No), Font Italic (No), and Fore Color (#000000).

Product	Total Inventory	Allocated Inventory	Available Inventory	Inventory Due from Supplier	Combin Total
#Name?	25	25	0	41	
#Name?	50	0	50	50	
#Name?	0	0	0	40	
#Name?	15	0	15	0	
#Name?	0	0	0	10	
#Name?	0	0	0	0	
#Name?	0	0	0	0	
#Name?	40	0	40	0	
#Name?	0	0	0	0	
#Name?	0	0	0	20	
#Name?	0	0	0	40	

Property Sheet
Selection type: Text Box

Format	Data	Event	Other	All
Decimal Places	Auto			
Visible	Yes			
Show Date Picker	For dates			
Width	1.5382"			
Height	0.2396"			
Top	0.0208"			
Left	0.125"			
Back Style	Normal			
Back Color	#FFFFFF			
Border Style	Solid			
Border Width	Hairline			
Border Color	#COCOCO			
Special Effect	Flat			
Scroll Bars	None			
Font Name	Calibri			
Font Size	11			
Text Align	General			
Font Weight	Normal			
Font Underline	No			
Font Italic	No			
Fore Color	#000000			

Modify Data Sources

The screenshot shows the Microsoft Access application interface in Design View. The main window displays the 'My Customers Form' with various fields filled with sample data. The 'Property Sheet' dialog is open, specifically for the 'Last Name' field, which has the value 'Bedecs'. The 'Control Source' dropdown menu is open, showing a list of available fields from the Northwind database. The list includes:

- Last Name
- Last Name
- First Name
- E-mail Address
- Job Title
- Default Value
- Validation Rule
- Validation Text
- Filter Lookup
- Enabled
- Locked
- Address
- City
- State/Province
- ZIP/Postal Code
- Country/Region
- Web Page
- Notes
- Attachments

The 'Format' tab is selected in the Property Sheet. The status bar at the bottom shows the message 'Field name or expression to use as source for control'.

Manage Labels

The screenshot shows the Microsoft Access application interface in Design View. The title bar indicates the database is "Northwind sample: Database- C:\..." and the user is "Michele Wiedemer". The ribbon tabs are File, Home, Create, External Data, Database Tools, Design (selected), Arrange, Format, and a search bar. The left pane displays a list of forms under "Forms", with "My Customers Form" selected and highlighted in red. The main area shows the "My Customers Form" with fields for Last Name, First Name, E-mail Address, Job Title, Business Phone, Address, City, State/Province, ZIP/Postal Code, and Country/Region. The "Address" field contains the value "123 1st Street". The status bar at the bottom shows "Record: 1 of 30", "No Filter", and "Search".

Forms

Search...

- Home
- Inventory List
- Inventory to reorder Subf...
- List
- Login Dialog
- My Customers Form**
- Navigation Form
- Order Details
- Order List
- Order Subform for Order ...
- Product Category Sales by...
- Product Details
- Product Sales by Category...
- Product Sales by Total Rev...
- Product Sales Qty by Empl...
- Product Transactions Sub...
- Purchase Order Details

My Customers Form

Last Name	Bedecs
First Name	Anna
E-mail Address	
Job Title	Owner
Business Phone	(123)555-0100
Address	123 1st Street
City	Seattle
State/Province	WA
ZIP/Postal Code	99999
Country/Region	USA

Record: 1 of 30 No Filter Search

Layout View

File Home Create External Data Database Tools Design Arrange Format Michele Wiedemer ? - □ ×

View Themes Colors Fonts

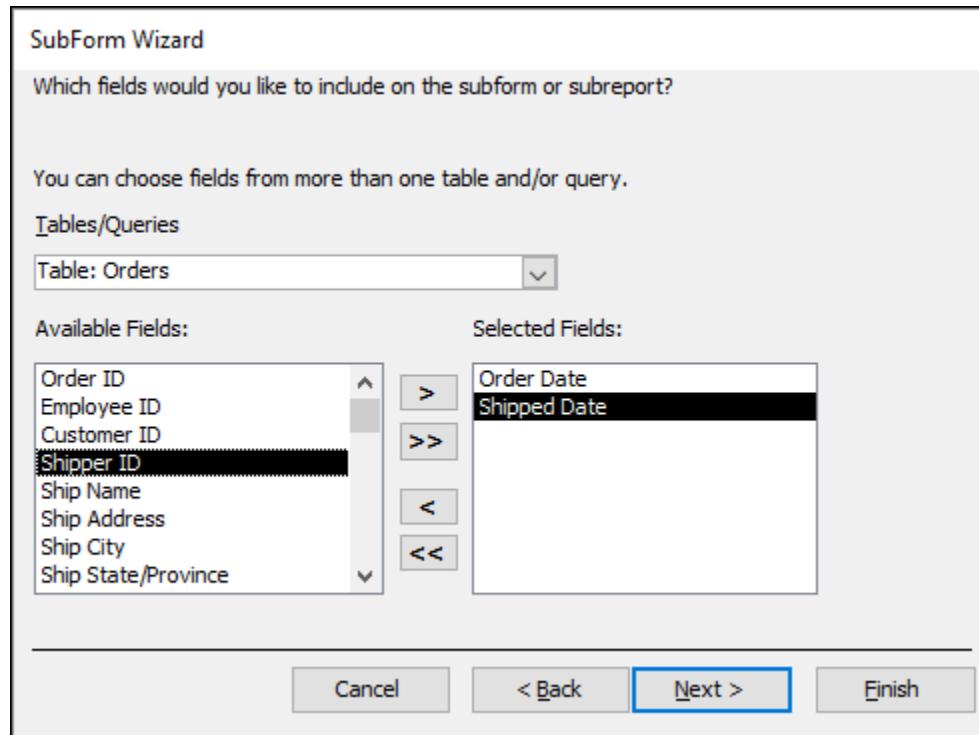
Views Themes

Controls

Logo Title Date and Time Add Existing Fields Property Sheet Header / Footer Tools

Insert Image

Add Sub-Forms

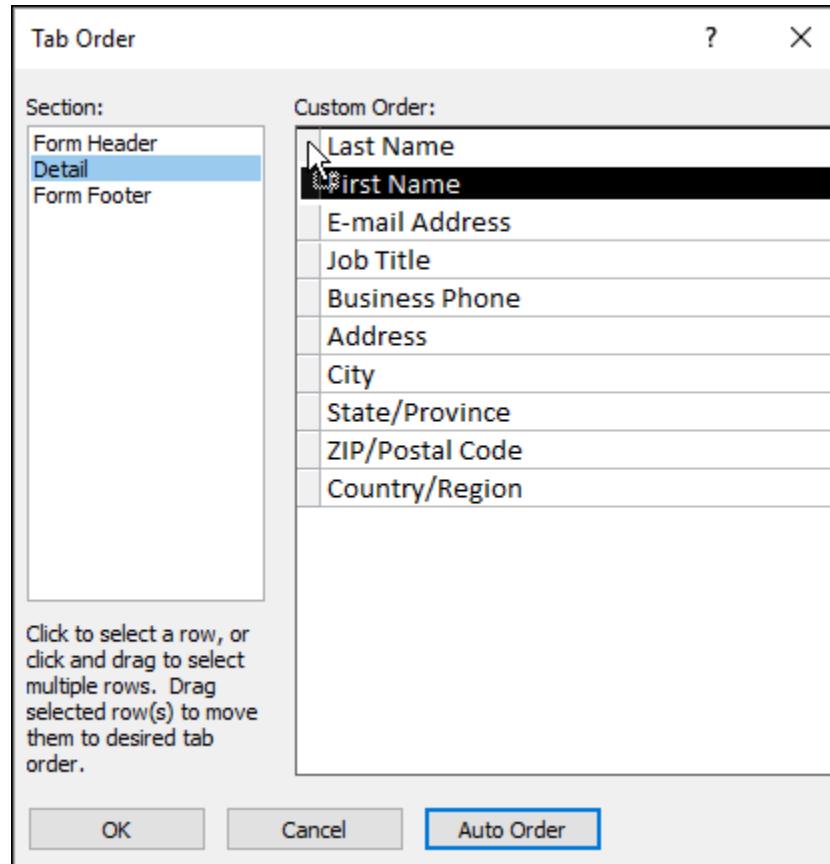


Lesson: Configure Form Controls

In this lesson, we'll introduce the following topics:

- Modify tab order
- Configure Print settings
- Sort records by form field
- Apply a theme
- Control form positioning
- Insert backgrounds
- Insert headers and footers
- Insert images

Modify Tab Order



Configure Print Settings

The screenshot shows the Microsoft Access Print dialog box. On the left is a red vertical ribbon menu with the following items: Info, New, Open, Save, Save As, Print (which is selected and highlighted in red), Close, Account, Feedback, and Options. The main area is titled "Print" and contains three options:

- Quick Print**: Send the object directly to the default printer without making changes.
- Print**: Select a printer, number of copies, and other printing options before printing.
- Print Preview**: Preview and make changes to pages before printing.

At the top of the window, the title bar reads "Northwind sample : Database- C:\Users\mbwie\Dropbox\1 Projects\CTM\Access 2016\Sample files\Northwin..." and "Michele Wiedemer". The standard window controls (minimize, maximize, close) are at the top right.

Sort Records by Form Field

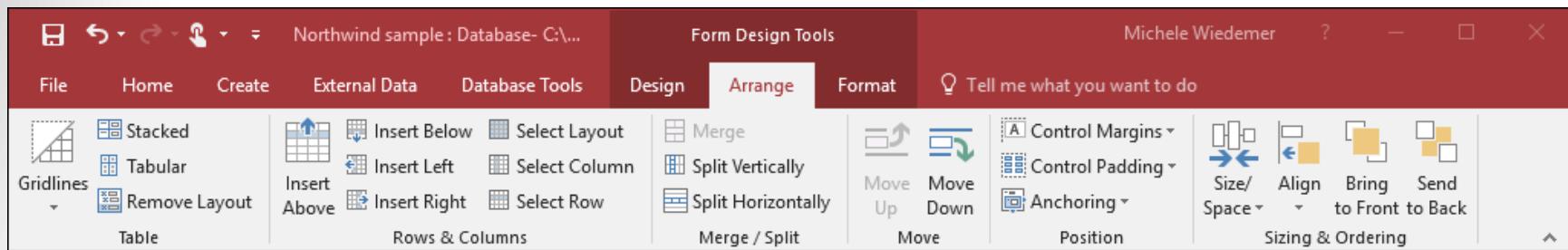
The screenshot shows the Microsoft Access application interface in Datasheet View. The ribbon at the top includes tabs for File, Home, Create, External Data, Database Tools, Datasheet, and Form Tools. The Form Tools tab is selected, and the status bar indicates "Northwind sample : Database- C:\Users\...". The main area displays a table with columns: Product, Qty Available, and Reorder Level. The rows list various products from "Northwind Traders" with their respective availability and reorder levels. The first row, "Northwind Traders Boysenberry Spread", is highlighted in yellow. The "Qty Available" column is sorted in ascending order, as indicated by the "Ascending" button in the Sort & Filter group on the ribbon.

Product	Qty Available	Reorder Level
Northwind Traders Boysenberry Spread	0	25
Northwind Traders Dried Pears	0	10
Northwind Traders Curry Sauce	0	10
Northwind Traders Fruit Cocktail	0	10
Northwind Traders Scones	0	5
Northwind Traders Beer	0	15
Northwind Traders Clam Chowder	0	10
Northwind Traders Chocolate	0	25
Northwind Traders Gnocchi	10	30
Northwind Traders Almonds	0	5
Northwind Traders Dried Plums	0	50
Northwind Traders Green Tea	50	100
Northwind Traders Granola	0	20
Northwind Traders Potato Chips	0	30
Northwind Traders Cake Mix	0	10
Northwind Traders Tea	0	20
Northwind Traders Pears	0	10
Northwind Traders Peaches	0	10
Northwind Traders Pineapple	0	10
Northwind Traders Cherry Pie Filling	0	10

Apply a Theme



Control Form Positioning



Insert Backgrounds

The screenshot shows the Microsoft Access 'Form Design Tools' ribbon. The 'Format' tab is selected. On the ribbon, there are tabs for File, Home, Create, External Data, Database Tools, Design, Arrange, Format, and Tell me what you want to do. Below the ribbon is a toolbar with buttons for Detail, Select All, and various font and number formats. The main area displays a form titled 'My Customers Form'. The form has a 'Form Header' section containing the title and a 'Detail' section with multiple text input fields. The 'Detail' section includes fields for Last Name, First Name, E-mail Address, Job Title, Business Phone, Address, City, and State/Province. The background of the form is a light grey dotted pattern. The 'Format' tab's ribbon group contains buttons for Background, Alternate Image, Row Color, Quick Change Conditional Styles, Shape, and Control Formatting.

Insert Headers and Footers

Form Header

	My Customers Form						Date()		
								=Time()	

Detail

Last Name	Last Name								
First Name	First Name								
E-mail Address	E-mail Address								
Job Title	Job Title								
Business Phone	Business Phone								
Address	Address								
City	City								
State/Province	State/Province								

Insert Images

◀ Form Header

My Customers Form

◀ Detail

Last Name		Last Name	
First Name		First Name	
E-mail Address		E-mail Address	
Job Title		Job Title	
Business Phone		Business Phone	
Address		Address	
City		City	
State/Province		State/Province	



Module Five: Review Questions

1. How many views are available for forms?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
2. Which tab allows you to create a form from application parts?

Module Five: Review Questions

3. Form design changes are saved automatically.
 - a) True
 - b) False
4. Which tab allows you to add form controls like check boxes?
 - a) Create
 - b) Form Design Tools Design
 - c) Form Design Tools Arrange
 - d) Form Design Tools Format

Module Five: Review Questions

5. The Property Sheet pane for form controls includes three tabs, plus an ALL tab for changing details related to a form control.
 - a) True
 - b) False
6. You can use the Expression builder when modifying the data source for a form control.
 - a) True
 - b) False

Module Five: Review Questions

7. Which tab allows you to add a sub form?
 - a) Create
 - b) Form Design Tools Design
 - c) Form Design Tools Arrange
 - d) Form Design Tools Format
8. The _____ tool on the Form Design Tools Design tab of the Ribbon allows you to control which order users progress through fields when entering data on a form.

Module Five: Review Questions

9. How can you sort records within a form?
10. Where are header/footer elements (Logo, Title, Date and Time) inserted for a form?

Module Five: Review Questions

1. How many views are available for forms?

- a) 1
- b) 2
- c) 3
- d) 4

2. Which tab allows you to create a form from application parts?

The Create tab includes the Application parts command, which includes several templates for creating pre-built forms.

Module Five: Review Questions

3. Form design changes are saved automatically.
 - a) True
 - b) False
4. Which tab allows you to add form controls like check boxes?
 - a) Create
 - b) Form Design Tools Design
 - c) Form Design Tools Arrange
 - d) Form Design Tools Format

Module Five: Review Questions

5. The Property Sheet pane for form controls includes three tabs, plus an ALL tab for changing details related to a form control.
 - a) True
 - b) False
6. You can use the Expression builder when modifying the data source for a form control.
 - a) True
 - b) False

Module Five: Review Questions

7. Which tab allows you to add a sub form?
 - a) Create
 - b) Form Design Tools Design
 - c) Form Design Tools Arrange
 - d) Form Design Tools Format
8. The _____ tool on the Form Design Tools Design tab of the Ribbon allows you to control which order users progress through fields when entering data on a form.

The **Tab Order** tool on the **Form Design Tools Design** tab of the Ribbon allows you to control which order users progress through fields when entering data on a form.

Module Five: Review Questions

9. How can you sort records within a form?

With the form in Form view, you can select the sort order for a selected field from the Home tab on the Ribbon.

10. Where are header/footer elements (Logo, Title, Date and Time) inserted for a form?

The Logo is inserted in the Form Header section on the left. The form Title is inserted in the middle of the Form Header section. The selected Date and Time elements are inserted on the right side of the Form Header section. All elements can be moved to the footer or another location in the Header or Footer sections of the form.

Module Six: Create Reports

Reports are the fourth type of object in Microsoft Access. They allow you to easily showcase and print your data. In this module, you'll learn to create a report, configure report controls and format a report.

The ladder of success is best climbed by stepping on the rungs of opportunity.
Ayn Rand



Lesson: Create a Report

In this lesson, we'll introduce the following topics:

- Create a report based on the query or table
- Create a report by using a wizard
- Create a report in Design view

Create a Report Based On the Query or Table

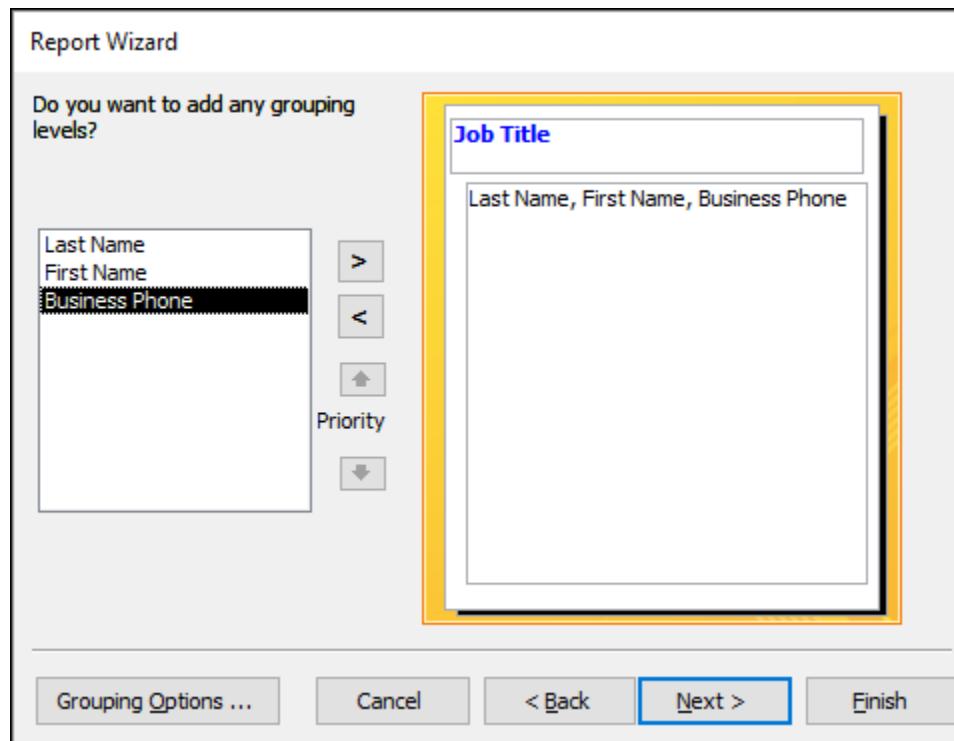
The screenshot shows the Microsoft Report Designer interface. The title bar reads "Northwind sample: Database- C:\...". The ribbon tabs include File, Home, Create, External Data, Database Tools, Design (selected), Arrange, Format, Page Setup, and Michele Wiedemer. The "Design" tab has sections for Group & Sort, Totals, Hide Details, Grouping & Totals, Controls, Header / Footer, and Tools. The "Header / Footer" section includes options for Logo, Title, Date and Time, Page Numbers, Add Existing Fields, and Property Sheet.

The left sidebar lists "Queries" with items like Invoices_Crosstab, Customers Extended, Customers Query, Employees Extended, Inventory, and Inventory on Hold, which is highlighted with a red box. The main area displays a report titled "Inventory on Hold" with a timestamp of Thursday, February 22, 2018, 2:20:05 PM. The report contains a table with columns "Product ID" and "Quantity On Hold". The data rows are:

Product ID	Quantity On Hold
Northwind Traders Chai	25
Northwind Traders Beer	23
Northwind Traders Coffee	325
Northwind Traders Gnocchi	110
Northwind Traders Dried Plums	20
Northwind Traders Green Tea	75
	6

At the bottom, it says "Page 1 of 1".

Create a Report by Using a Wizard



Create a Report in Design View

The screenshot shows the Microsoft Report Designer interface. The title bar reads "Northwind sample: Database- C:\...". The ribbon is visible with tabs: File, Home, Create, External Data, Database Tools, Design (selected), Arrange, Format, Page Setup, and a search bar "Tell me what you want to do".

The left sidebar contains a "Queries" section with a search bar and a list of query names. The "Inventory on Hold" query is selected and highlighted with a red box.

The main workspace displays a report design titled "Report1". The design view shows a grid structure with three rows labeled 1, 2, and 3, and seven columns. The first column is labeled "1" and the last column is labeled "7". The "Page Header" and "Detail" sections are visible above the grid.

The status bar at the bottom shows "Design View" and "Num Lock".

Lesson: Configure Report Controls

In this lesson, we'll introduce the following topics:

- Add report controls
- Add and modify labels
- Modify data sources
- Add calculated fields
- Group and sort fields

Add Report Controls

Northwind sample: Database- C:\...

Report Design Tools

Michele Wiedemer

File Home Create External Data Database Tools Design Arrange Format Page Setup Tell me what you want to do

View Themes Colors Fonts Group & Sort Totals Hide Details Themes Grouping & Totals

Controls Insert Image Page Numbers Add Existing Fields Property Sheet Tab Order Date and Time Header / Footer Tools

Queries

Search... Invoices_Crosstab Customers Extended Customers Query Employees Extended Inventory Inventory on Hold Inventory on Order Inventory Purchased Inventory Sold Invoice Data Order Details Extended Order Price Totals Order Subtotals Order Summary Product Category Sales by... Product Orders Product Purchases

Report1

Page Header Detail

Last Name

ID Company First Name E-mail Address Job Title

Orders

Employee Privileges Employees Inventory Transaction Types Inventory Transactions Invoices My.Make Table

Design View Num Lock

Add and Modify Labels

The screenshot shows the Microsoft Report Designer interface. The title bar reads "Northwind sample: Database- C:\...". The ribbon tabs are "Report Design Tools", "Design", "Arrange", "Format" (selected), "Page Setup", and "Tell me what you want to do". The "Format" tab has several toolbars: "Selection", "Font" (set to "Trebuchet MS (Detail) 11"), "Number", "Background" (with "Image" and "Alternate Row Color" options), and "Control Formatting". The left sidebar is titled "Queries" and lists various database tables and views, with "Inventory on Hold" selected and highlighted in red. The main workspace displays a report structure with a "Page Header" and a "Detail" section. In the "Detail" section, there is a label control containing the text "My Label" and a table with two columns labeled "Last Name". The "Last Name" column is currently selected. The status bar at the bottom shows "Design View" and "Num Lock".

Modify Data Sources

The screenshot shows the Microsoft Report Designer interface. The top menu bar includes File, Home, Create, External Data, Database Tools, Design (selected), Arrange, Format, Page Setup, and a search bar. The ribbon also features Themes, Group & Sort, Totals, Hide Details, Fonts, Views, and Themes under the Design tab.

The main area displays a report titled "Report1" in Design View. The report structure includes a Page Header and a Detail section. In the Detail section, there is a table with three columns. The first column contains a text box labeled "My Label". The second column contains two text boxes, both labeled "Last Name". The third column contains three text boxes labeled "First Name", "Company", and "Job Title".

A "Queries" pane on the left lists various database queries, with "Inventory on Hold" selected and highlighted in red. The "Property Sheet" pane on the right shows settings for the currently selected "Last Name" text box, including Control Source (Last Name), Text Format (Plain Text), Running Sum (No), Input Mask (None), and Enabled (Yes).

Add Calculated Fields

Screenshot of Microsoft Report Designer showing the creation of a calculated field.

The report is titled "Inventory Sold1".

The **Design** ribbon tab is selected.

The **Tools** section of the ribbon shows the **Property Sheet** icon highlighted.

The **Report Header** contains the title "Inventory Sold1".

The **Detail** section contains two text boxes: "Product ID" and "Quantity Sold". The "Quantity Sold" text box has a formula: `= [Product ID] * [Prod`.

The **Page Footer** contains the formula `=Now()`.

The **Property Sheet** pane is open, showing properties for the "Text7" control:

Name	Text7
Label Name	Label8
Control Source	<code>= [Product ID] * [Prod</code>
Format	Auto
Decimal Places	Yes
Visible	Plain Text
Datasheet Caption	
Width	1"
Height	0.2292"
Top	0.625"
Left	3"
Back Style	Normal
Back Color	Background 1
Border Style	Solid
Border Width	Hairline
Border Color	Background 1, Darker 35%
Special Effect	Flat
Scroll Bars	None
Font Name	Trebuchet MS (Detail)
Font Size	11
Text Align	General

Group and Sort Fields

The screenshot shows the Microsoft Report Designer interface with the following details:

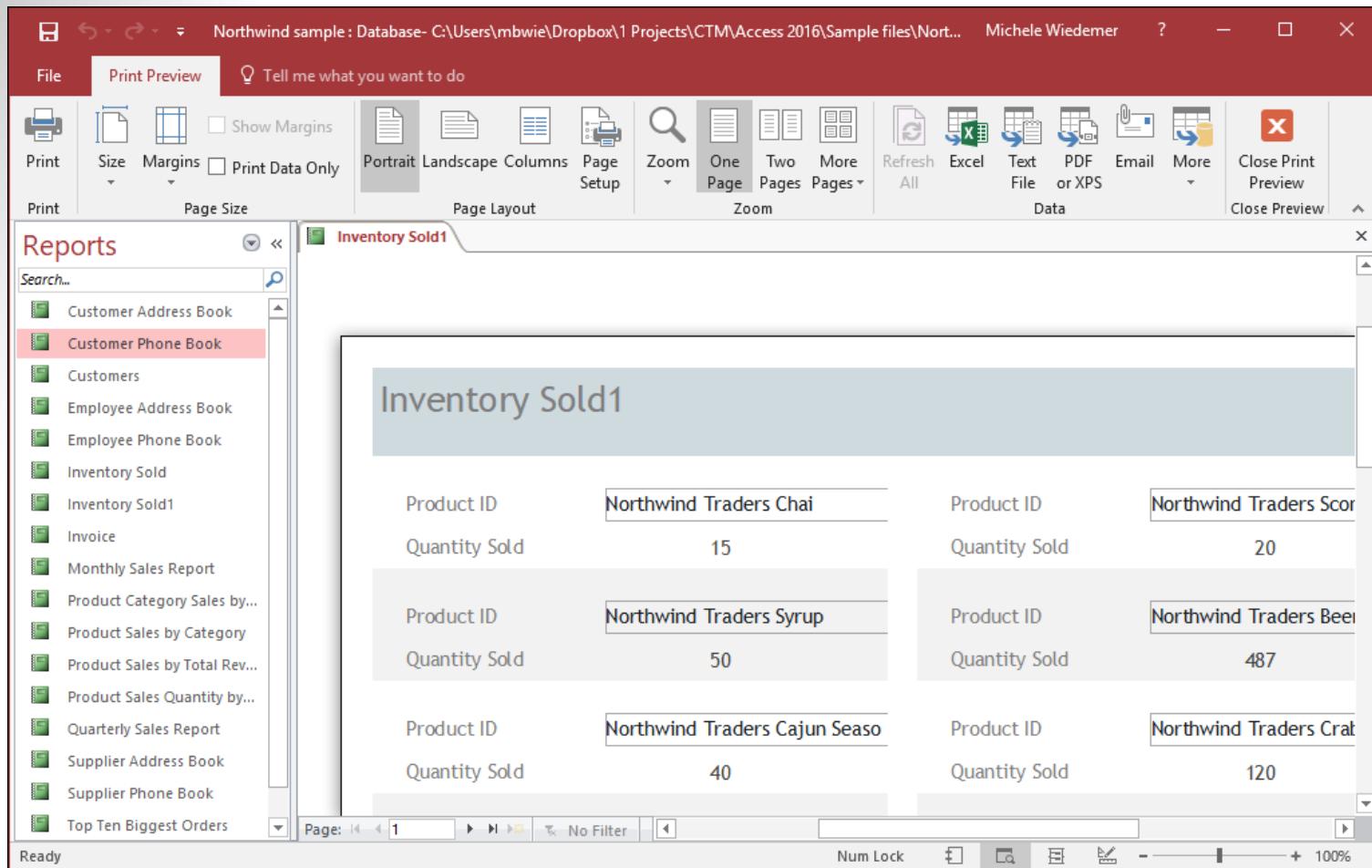
- Top Bar:** Northwind sample : Database- C:\... | Report Design Tools | Michele Wiedemer | ?
- File Tab:** File, Home, Create, External Data, Database Tools, Design (selected), Arrange, Format, Page Setup.
- Design Tab Tools:** Themes, Colors, Fonts, Views, Grouping & Totals, Group & Sort, Totals, Hide Details, Controls, Insert, Page Numbers, Logo, Title, Date and Time, Add Existing Fields, Property Sheet, Tab Order, Tools.
- Left Sidebar:** Reports (Customer Address Book selected). Other reports listed include Customer Phone Book, Customers, Employee Address Book, Employee Phone Book, Invoice, Monthly Sales Report, Product Category Sales by M..., Product Sales by Category, Product Sales by Total Revenue, Product Sales Quantity by Em..., Quarterly Sales Report, Supplier Address Book, Supplier Phone Book, Top Ten Biggest Orders, Yearly Sales Report.
- Report Preview Area:** Report1 - Customer Address Book. The report structure includes:
 - Report Header: Customer Address Book
 - Page Header: Contact Name, Address, City, State/Province, Zip/Postal Code
 - Detail: A table with columns for Contact Name, Address, City, State/Province, ZIP/Postal Code. The first row contains placeholder text =U0.
 - Page Footer
- Group, Sort, and Total Dialog:** Group on File As ▾ with A on top ▾, More ▾. Options: Sort by File As, Add a group, Add a sort.
- Bottom Status Bar:** Num Lock, keyboard icons.

Lesson: Format a Report

In this lesson, we'll introduce the following topics:

- Format a report into multiple columns
- Change report orientation
- Control report positioning
- Format report elements
- Insert header and footer information
- Insert images
- Apply a theme

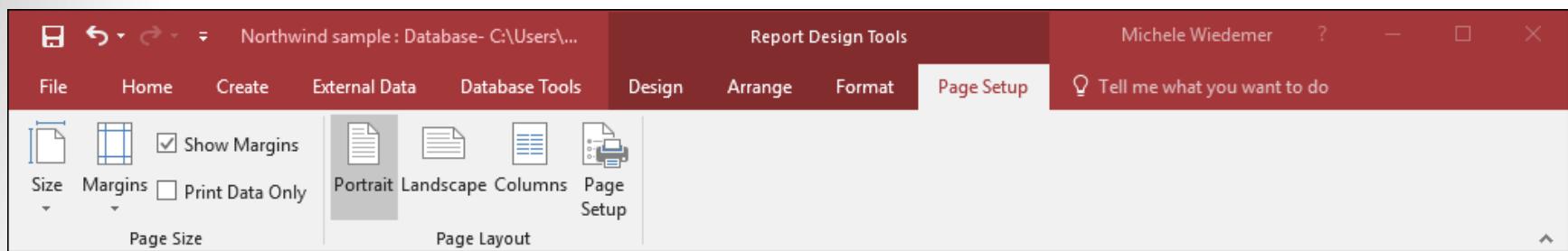
Format a Report into Multiple Columns



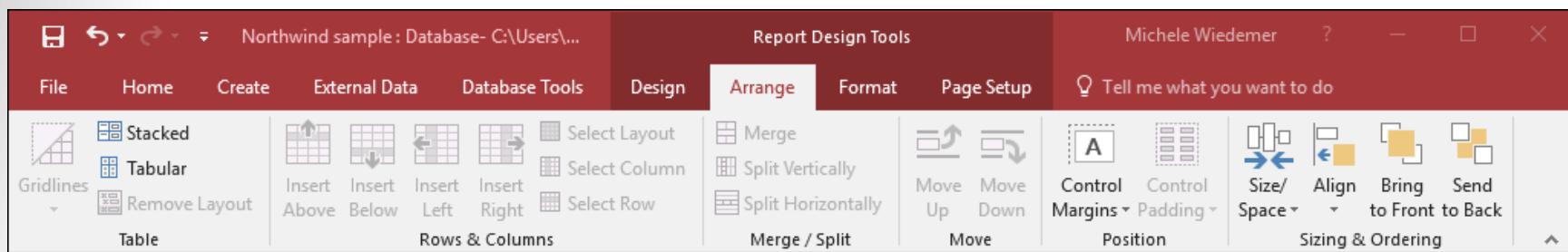
The screenshot shows the Microsoft Access Print Preview window. The title bar indicates the database is "Northwind sample : Database- C:\Users\mbwie\Dropbox\1 Projects\CTM\Access 2016\Sample files\Nort...". The ribbon tabs include File, Print Preview, and a search bar. The Print Preview tab is selected, showing various print options like Print, Size, Margins, and Page Layout. The Page Layout tab is also visible, showing icons for Portrait, Landscape, Columns, Page Setup, Zoom, and Page Orientation. The preview area displays a report titled "Inventory Sold1" with data in two columns. The left column contains rows for "Northwind Traders Chai" (Product ID), "15" (Quantity Sold), "Northwind Traders Syrup" (Product ID), "50" (Quantity Sold), "Northwind Traders Cajun Sea" (Product ID), and "40" (Quantity Sold). The right column contains rows for "Northwind Traders Scor" (Product ID), "20" (Quantity Sold), "Northwind Traders Beer" (Product ID), "487" (Quantity Sold), "Northwind Traders Craf" (Product ID), and "120" (Quantity Sold). The bottom of the preview shows page navigation buttons and a status bar indicating "Page: 1" and "Ready".

Product ID	Quantity Sold	Product ID	Quantity Sold
Northwind Traders Chai	15	Northwind Traders Scor	20
Northwind Traders Syrup	50	Northwind Traders Beer	487
Northwind Traders Cajun Sea	40	Northwind Traders Craf	120

Change Report Orientation



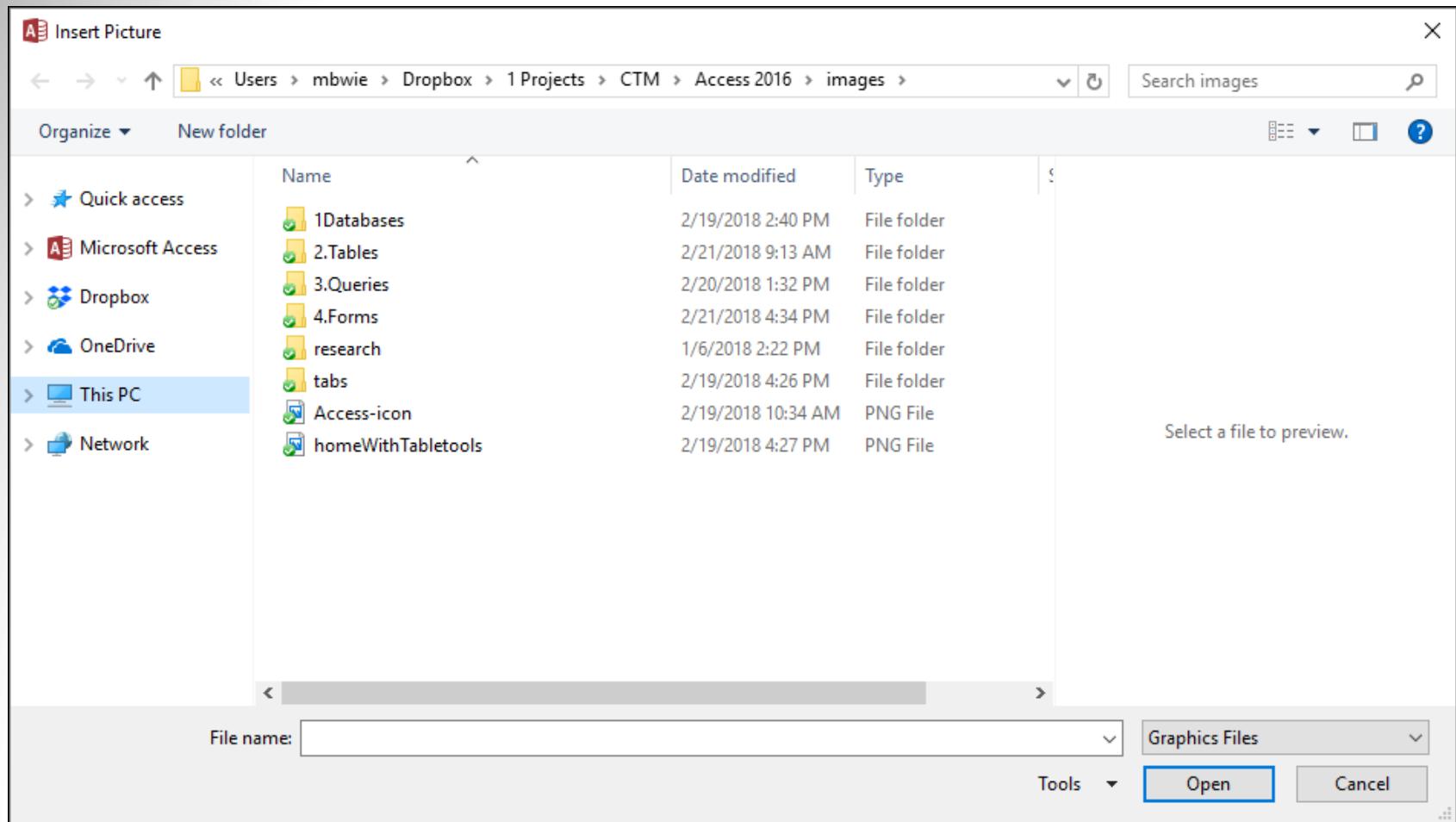
Control Report Positioning



Format Report Elements

The screenshot shows the Microsoft Report Designer interface. The ribbon at the top has tabs for File, Home, Create, External Data, Database Tools, Design, Arrange, Format (which is selected), Page Setup, and a search bar. The main area displays a report titled "Inventory Sold1". The report structure includes a Report Header, a Page Header, a Detail section containing a table with columns for Product ID and Quantity Sold, and a Page Footer with formulas like =Now() and =Page & [Page] & " of " & [Pages]. On the left, a navigation pane lists various reports, with "Customer Phone Book" currently selected. The toolbar above the report preview includes tools for selecting all, bold, italic, underline, font, font size, number format, background image, alternate row color, quick change styles, conditional formatting, shape fill, shape outline, and shape effects. The status bar at the bottom shows "Design View" and "Num Lock".

Insert Header and Footer Information



Insert Images

Report Header

Inventory Sold 1

Page Header

=Date()
=Time()

Detail

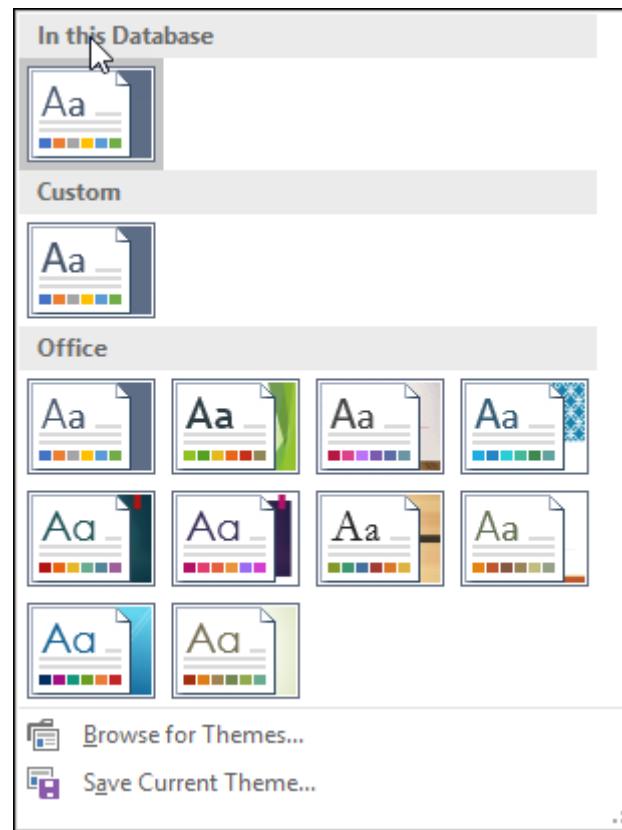
Product ID	Product ID	Quantity Sold	Quantity Sold	-[Product ID]*	
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Page Footer

=Now() "Page " & [Page] & " of " & [Pages]

Report Footer

Apply a Theme



Module Six: Review Questions

1. Which Create Report option allows you to create a report in one-click from a selected table or query?
 - a) Report
 - b) Report Design
 - c) Blank Report
 - d) Report Wizard
2. You can choose fields from more than one table or query to include in a report using the Report Wizard.
 - a) True
 - b) False

Module Six: Review Questions

3. With a report in Design view, which pane allows you to drag fields you want to include on your report to the section of the report where you want the data for that field displayed?
 - a) Field List
 - b) Property Sheet
 - c) Controls
4. Which report control allows you to add text to display a description of specific report data?
 - a) Text box
 - b) Label
 - c) Button
 - d) Combo Box

Module Six: Review Questions

5. You can change the control source for a report field on the Property Sheet.
 - a) True
 - b) False
6. Which tab includes the Group & Sort tool for adding or modifying the way information is grouped on your report?

Module Six: Review Questions

7. Which tab allows you to format report data into columns?
 - a) Report Design Tools Design Tab
 - b) Report Design Tools Arrange Tab
 - c) Report Design Tools Format Tab
 - d) Report Design Tools Page Setup Tab
8. Which tab includes the tools for controlling report element positioning?
 - a) Report Design Tools Design Tab
 - b) Report Design Tools Arrange Tab
 - c) Report Design Tools Format Tab
 - d) Report Design Tools Page Setup Tab

Module Six: Review Questions

9. Which tab allows you to control the font and size of text on your report?
 - a) Report Design Tools Design Tab
 - b) Report Design Tools Arrange Tab
 - c) Report Design Tools Format Tab
 - d) Report Design Tools Page Setup Tab
10. Where is the option to insert an image on your report?

Module Six: Review Questions

1. Which Create Report option allows you to create a report in one-click from a selected table or query?
 - a) Report
 - b) Report Design
 - c) Blank Report
 - d) Report Wizard
2. You can choose fields from more than one table or query to include in a report using the Report Wizard.
 - a) True
 - b) False

Module Six: Review Questions

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 - c) Button
 - d) Combo Box

Module Six: Review Questions

5. You can change the control source for a report field on the Property Sheet.
 - a) True
 - b) False
6. Which tab includes the Group & Sort tool for adding or modifying the way information is grouped on your report?

The Report Design Tools Design tab on the Ribbon includes the Group & Sort tool.

Module Six: Review Questions

7. Which tab allows you to format report data into columns?
 - a) Report Design Tools Design Tab
 - b) Report Design Tools Arrange Tab
 - c) Report Design Tools Format Tab
 - d) **Report Design Tools Page Setup Tab**
8. Which tab includes the tools for controlling report element positioning?
 - a) Report Design Tools Design Tab
 - b) **Report Design Tools Arrange Tab**
 - c) Report Design Tools Format Tab
 - d) Report Design Tools Page Setup Tab

Module Six: Review Questions

9. Which tab allows you to control the font and size of text on your report?

- a) Report Design Tools Design Tab
- b) Report Design Tools Arrange Tab
- c) Report Design Tools Format Tab
- d) Report Design Tools Page Setup Tab

10. Where is the option to insert an image on your report?

Insert Image is on the Report Design Tools Design tab of the Ribbon.