# Instructor’s Manual Exploring Microsoft Access 2016, Chapter 1

## Available Instructor Resources

|  |  |  |
| --- | --- | --- |
| **Resource** | **File Name** | **Found** |
| **Student Data Files** | [Various](#_PROJECTS_AND_EXERCISES), click link to see file list | Online Instructor Resource Center |
| **Solution Files** | [Various](#_PROJECTS_AND_EXERCISES), click link to see file list | Online Instructor Resource Center |
| **Answer Keys** |  | Online Instructor Resource Center |
| Matching | a01\_answerkey\_match.docx |
| Multiple Choice | a01\_answerkey\_mc.docx |  |
| Concepts Checks | a01\_answerkey\_concepts.docx |  |
| **Scorecards** | Various, example:  a01\_b2StockData \_scorecard.xlsx | Online Instructor Resource Center |
| **Scoring Rubrics** | a01 \_rubric.docx | Online Instructor Resource Center |
| **Annotated Solution Files** | Various, example:  a01\_b2StockData\_annsolution.pdf | Online Instructor Resource Center |
| **Scripted Lecture (Script)** | a01\_script.docx | Online Instructor Resource Center |
| Scripted Lecture Data | a01\_script\_data.xlsx |
| Scripted Lecture Solution | a01\_script\_solution.xlsx |  |
| **PowerPoint Presentation** | a01\_powerpoints.pptx | Online Instructor Resource Center |
| **Testbank** | a01\_testbank.doc | Online Instructor Resource Center |
| **Instructor's Manual (lesson plans incl.)** | a01\_instructormanual.docx | Online Instructor Resource Center |
| **Assignment Sheet** | a01\_assignsheet.docx | Online Instructor Resource Center |
| **Prepared Exam (Chapter & App)** |  | Online Instructor Resource Center |
| Prepared Exam-Chap instruction | a01\_exam\_chap\_instruction.docx |
| Prepared Exam-Chap Data | a01\_exam\_chap\_data.xlsx |
| Prepared Exam-Chap Solution | a01\_exam\_chap\_solution.xlsx |
| Prepared Exam-Chap Annotated Sol. | a01\_exam\_chap\_annsolution.pdf |
| Prepared Exam-Chap Scorecard | a01\_exam\_chap\_scorecard.xlsx |
| **File Guide** | a01\_file\_guide.xlsx | Online Instructor Resource Center |
| **Objective Map** | a01\_objectivesmap | Online Instructor Resource Center |
| **Grader Project** |  |  |
| Grader Instruction | a01\_grader\_instruction.docx | Online Instructor Resource Center |
| Grader Data | a01\_grader\_data.xlsx |
| Grader Solution | a01\_grader\_solution.xlsx |
| Grader Annotated Solution | a01\_grader\_annsolution.pdf |  |
| Grader Scorecard | a01\_grader\_scorecard.xlsx |  |

## CHAPTER OBJECTIVES

### When students have finished reading this chapter, they will be able to:

* Open a database
* Save a database with a new name
* Enable content in a database
* Examine the Access interface
* Explore Table Design and Datasheet views
* Navigate through tables
* Understand Relationships between Tables
* Understand the Difference Between Working in Storage and Memory
* Add, Delete, and Change Records in a Table
* Back Up, Compact, and Repair a Database
* Encrypt a Database
* Print Information
* Use Filters for Exact Matches and Values
* Sort Table Data
* Create a Blank Database
* Create a Database using a Template
* Download Database Objects
* Create a Table using an Application Part
* Create a Web App Using a Template

## CHAPTER OVERVIEW

The students will be asked to create, edit, and save tables in a database. The student will learn how to add, delete, and modify data in tables, how to create relationships in tables on like fields, and how to back up, compact, and repair a database. Students will work with filters to select certain information and sort tables on fields. Student also will learn how to create a blank database from scratch or by using a template, how to create tables using Application Parts, and how to create a Web App using a template.

### The major sections in this chapter are:

1. **Databases are Everywhere.** In this section, the student will learn how to open, save, and enable content in a database, recognize database object types, modify data in table datasheet view, add records, delete records, and use database utilities.
2. **Filters and Sorts.** In this section, the student will learn how filters work to find exact matches, how to find records containing values, and how to use filter by form. Students also will learn how to perform sorts.
3. **Access Database Creation.** Students will learn how to create a database from scratch, create a database using a template, add records to a downloaded desktop database, create a table using an Application Part, and create a Web App using a template.

## CLASS RUN-DOWN

1. Have students turn in homework assignments.
2. Talk about the chapter using the discussion questions listed below.
3. Use a PowerPoint presentation to help students understand the chapter content.
4. Demonstrate Access 2016 database and table creation.
5. [Run through the Scripted Lecture for the chapter. Give special attention to areas in which students might be challenged.](#_WHEN_USING_SCRIPTED)
6. Have students complete the Capstone Exercise for Access Chapter 1.
7. Use MyITLab for in-class work or to go over homework.
8. Give students the homework handout for the next class period.

## LEARNING OBJECTIVES

### At the end of this lesson students should be able to:

* Open, Save and Enable Content in a Database
* Recognize Database Object Types
* Modify Data in a Table Datasheet View
* Add Records to a Table
* Delete Records from a Table
* Use Database Utilities
* Work with Filters
* Perform Sorts
* Create a Database

## KEY TERMS

**Access–**A relational database management system in which you can record and link data, query databases, and create forms and reports.

**Application part––**A feature that enables you to add a set of common Access components to an existing database, such as a table, a form, and a report for a related task.

**Back Up Database–**A utility that creates a duplicate copy of the entire database to protect from loss or damage.

**Compact and Repair Database–**A utility that reduces the size of a database and fixes any errors that may exist in the file.

**Custom web app–**A feature which enables users to create a database that they can build and then use and share with others through the Web.

**Database–**A collection of data organized as meaningful information that can be accessed, managed, stored, queried, sorted, and reported.

**Database management system (DBMS)–**A software system that provides the tools needed to create, maintain, and use a database.

**Database Splitter–**A utility that puts the tables in one file (the back-end database), and the queries, forms, and reports in a second file (the front-end database).

**Datasheet view–**A grid containing fields (columns) and records (rows) used to view, add, edit, and delete records.

**Design view–**A view which gives users a detailed view of the table’s structure and is used to create and modify a table’s design by specifying the fields it will contain, the fields’ data types, and their associated properties.

**Field**–The smallest data element contained in a table, such as first name, last name, address, and phone number.

**Field property–**A characteristic of a field that determines how it will look and behave.

**Filter–**A feature which allows users to specify conditions to display only those records that meet those conditions.

**Filter By Form–**A more versatile method of selecting data, enabling users to display records based on multiple criteria.

**Form–**A database object that is used to add data into or edit data in a table.

**Macro–**A stored series of commands that carry out an action; often used to automate simple tasks.

**Module–**An advanced object written using the VBA (Visual Basic for Applications) programming language.

**Navigation Pane––**An Access interface element that organizes and lists the objects in an Access database.

**Object–**A component created and used to make the database function (such as a table, query, form, or report).

**Primary key–**The field (or combination of fields) that uniquely identifies each record in a table.

**Query–**A question about the data stored in a database with answers provided in a datasheet.

**Record–**A group of related fields representing one entity, such as data for one person, place, event, or concept.

**Relationship–**A connection between two tables using a common field.

**Report–**A database document that outputs meaningful, professional-looking, formatted information from underlying tables or queries.

**Selection Filter–**A method of selecting that displays only the records that match a criterion you select.

**Sort–**A feature which lists records in a specific sequence.

**Table–**The location where all data is stored in a database; organizes data into columns and rows.

**Template–**A predefined database that includes professionally designed tables, forms, reports, and other objects that you can use to jumpstart the creation of your database.

## DISCUSSION QUESTIONS

* Why would you want to save a database with a different name?
* Why is choosing the correct data type important to the creation of tables?
* Why is it always important to verify a deletion before performing it?
* What is the difference between Filter by Selection and Filter by Form?
* How can you sort on more than one field?
* Why would you use a template instead of creating a database from scratch?

## WHEN USING SCRIPTED LECTURE IN CLASS, DEMONSTRATE HOW TO:

* Open, Save, and Enable Content in a Database
* Recognize Database Object Types
* Modify Data in Table Datasheet View
* Add Records to a Table
* Delete Records from a Table
* Use Database Utilities
* Use a Selection Filter to Find Exact Matches
* Use a Selection Filter to Find Records Containing a Value
* Use Filter by Form
* Sort Table Data
* View Relationships
* Create a Database using a Template
* Add Records to a Downloaded Desktop Database
* Explore the Database Objects in a Downloaded Desktop Database Template

## CONNECTIONS: PRACTICAL PROJECTS AND APPLICATIONS

* Create a blank database, save it as your first name. Save the default table as your last name. Add a minimum of five fields such as Name, Address, City, State, and Phone Number. Use appropriate data types. Add five records to your table.
* Filter by Selection on at least two fields. Filter by Form at least two items in your table. Clear your filters when finished.
* Sort your table on at least one field.
* Create another table using an application part of your choice. Review the field names, delete unnecessary field names.

## TEACHING NOTES

### Databases are Everywhere

In this section, the student will learn how to open, save, and enable content in a database, and how to recognize object types, modify data in a table, add and delete records, and use database utilities.

* A database is a collection of data that is organized in such a way that it can be accessed, managed, stored, queried, sorted, and reported in an easy manner.
* A database management system (DBMS) is a software system that provides the tools needed to create, manage, and use a database.

#### Open, Save, and Enable Content in a Database

* The Enable Content warning alerts you that the database might contain harmful code. Clicking Enable the Content says that you know the database can be trusted.
* **Teaching Tips**: Demonstrate what to do when the Enable Content warning appears when the database is opened the first time.
* **Teaching Tips:** Explain the importance of the Enable Content warning.
* **Teaching Tips:** Demonstrate how to use Save As to save the database with a different name.

#### Recognize Database Object Types

* Each component created and used to make the database function is known as an object.
* Objects can be found on the Navigation pane which appears on the left side of the screen.
* Objects include tables, queries, forms, and reports.
* **Teaching Tips:** Stress the importance of the table in the database. It is the foundation of the database.
* **Teaching Tips:** Explain the different terminology associated with tables such as field, record, primary key, and data type.
* **Teaching Tips:** Explain what a query is and how it can answer a simple or complex question about the data in a table.
* **Teaching Tips:** Demonstrate how a form can be used to add records to a table.
* **Teaching Tips:** Explain the difference between adding data directly into the table or adding data into a form.
* **Teaching Tips:** Show how a report can be used to show the table in a readable format that can be used in presentations.
* Review the Access Ribbon which is different from the other Office application Ribbons.
* **Teaching Tips:** Demonstrate the two Ribbons that are unique to Access, the External Data Ribbon and the Database Tools Ribbon.
* **Teaching Tips:** Explain the uses of each Ribbon tab and the features included.
* Access provides two different ways to view a table, datasheet view and design view.
* **Teaching Tips:** Demonstrate the difference between the two views of a table.
* **Teaching Tips**: Explainwhy design view is so important in the creation of a database.
* **Teaching Tips:** Demonstrate how to toggle between the two views.
* **Teaching Tips:** Demonstrate how to add records to a table in datasheet view. Explain why adding records does not require you to save again.
* **Teaching Tips:** Demonstrate how making changes to the design requires the table be saved again.
* **Teaching Tips:** Demonstrate the navigation bar at the bottom of the table.
* **Teaching Tips:** Demonstrate using Find to search for records in a table.
* **Teaching Tips:** Demonstrate how to change the data type of fields in a table.
* **Teaching Tips:** Demonstrate how to rename tables in a database.
* **Teaching Tips:** Explain thepurpose of creating relationships. Demonstrate how to create a relationship on like fields in tables.
* **Teaching Tips:** Explain the different types of relationships and what purpose they serve.

#### Modify Data in Table Datasheet View

* Access saves to the primary storage medium you specified when you saved the database when you began. This is different from other Office packages that save in RAM until you manually save the data to your primary storage medium.
* **Teaching Tips**: Demonstrate adding a new record to a table, then close the table. Open the table again. The new record is shown in the table.
* **Teaching Tips**: Demonstrate changing a field name. Go to datasheet view, show students that the Save feature appears because you have changed the structure of the table.

#### Add Records to a Table

* **Teaching Tips**: Demonstrate adding a new record to a table, then close the table. Open the table again, the new record is shown in the table.

#### Delete Records from a Table

* Deleting records from a database is not an easy decision.
* **Teaching Tips**: Demonstrate how to delete a record. Show the message that appears when a deletion is made.
* **Teaching Tips**: Explain that once a record is deleted, it cannot be recovered.

#### Use Database Utilities

* Back Up Database is a utility that creates a duplicate copy of the entire database for protection against loss or damage.
* Backups are typically stored on a separate device, such as an external hard drive or network drive.
* The Compact and Repair feature reduces the size of a database and fixes errors that may exist in the file.
* Encrypting a database enables you to password-protect the stored information in a database.
* When printing is necessary, tables, queries, forms and reports can be printed.

### Filters and Sorts

Filtering information in a table allows you to isolate records that meet certain criteria. Sorting records orders them in specific ways.

#### Work with Filters

* A selection filter displays only the records that match a criterion you select, such as a specific last name.
* **Teaching Tips:** Demonstrate how to select a last name and filter by selection on that name.
* **Teaching Tips:** Demonstrate how to clear the filter.
* Using filter by selection to filter records that contain certain criteria can also be done.
  + **Teaching Tips**: Demonstrate how to use Filter by Selection and select contains part of a last name. Clear the filter.
* Filter by Form is a more versatile method because it enables you to display records based on more than one criteria.
* **Teaching Tips:** Demonstrate using Filter by Form to select a last name and a city to see the results of multiple criteria.

#### Perform Sorts

* Ordering information is sorting in a specific sequence, ascending or descending.
* **Teaching Tips:** Demonstrate sorting on a text field in the table to show how the records are sorted in alphabetical order.
* **Teaching Tips:** Demonstrate sorting on a numeric field, either ascending or descending.

### Access Database Creation

Databases can be created in three ways: creating a blank database, creating a database based on a template, or creating a custom Web App database.

#### Create a Database

* A blank desktop database can be created when you are going to import your data from Excel or Word.
* **Teaching Tips:** Demonstrate how to create a blank desktop database. Show that there is no data stored in the blank table when the database is opened for the first time.
* A database can also be created from templates that are stored in Access or on line. You can search for the right database or search online for one that suits your purpose.
* Records can be added to a template database table once the database has been downloaded. Before doing so, review the fields in the table and delete any unnecessary fields from your table, and add any fields that are not present. Also make or modify the primary key before saving the table.
* When using a downloaded desktop database, it if important to familiarize yourself with the unique features of the template, tables, queries, reports, and forms. Delete any that do not apply and revise those that you can use.
* An Application Part enables you to add a set of common Access components to an existing database.
  + **Teaching Tips**: Demonstrate using Application Part to add a table to the database.
  + A Web App is a type of database that lets you build a browser-based database app. You create the database in the cloud and others can access and use it simultaneously.
  + You have to have access to a host server before you can create a Web app database.

## OBJECTIVE TESTS IN MYITLAB

To find an objective test to help your students practice for tests, have them sign in to MyITLab:   
[www.myitlab.com](http://www.myitlab.com).

## ADDITIONAL WEB RESOURCES

1. Basic Tasks for an Access Desktop Database: <https://support.office.com/en-US/article/Basic-tasks-for-an-Access-desktop-database-5DDB8595-497C-4366-8327-AE79D2ABDC9C>
2. Access 2016 Specifications: <https://support.office.com/en-US/article/Access-2016-specifications-0cf3c66f-9cf2-4e32-9568-98c1025bb47c>
3. Compact and Repair a Database: <https://support.office.com/en-US/article/Compact-and-repair-a-database-6EE60F16-AED0-40AC-BF22-85FA9F4005B2>
4. Filter Data in a Desktop Database: <https://support.office.com/en-US/article/Filter-data-in-a-desktop-database-4DBC43D7-CCE2-4F34-8F73-EEAD5073CE16>
5. Learn the Structure of an Access Database: <https://support.office.com/en-US/article/Learn-the-structure-of-an-Access-database-001A5C05-3FEA-48F1-90A0-CCCAA57BA4AF>

## PROJECTS AND EXERCISES

|  |  |  |
| --- | --- | --- |
|  | **Data file** | **Save As** |
| Hands-On Exercise 1 | a01h1Traders.accdb | a01h1Traders\_LastFirst.accdb a01h1Traders\_LastFirst\_CurrentDate.accdb |
| Hands-On Exercise 2 |  | a01h2Traders\_LastFirst.accdb |
| Hands-On Exercise 3 |  | a01h3Contacts\_LastFirst.accdb |
| Practice Exercise 1 | a01p1Replace.accdb | a01p1Replace\_LastFirst.accdb a01p1Replace\_LastFirst\_CurrentDate.accdb |
| Practice Exercise 2 | a01p2Coffee.accdb | a01p2Coffee\_LastFirst.accdb a01p2Coffee\_LastFirst\_CurrentDate.accdb |
| Practice Exercise 3 |  | a01p3Nutrition\_LastFirst.accdb a01p3Nutrition\_LastFirst\_CurrentDate.accdb |
| Mid-Level Exercise 1 | a01m1Sunshine.accdb | a01m1Sunshine\_LastFirst.accdb a01m1Sunshine\_LastFirst\_CurrentDate.accdb |
| Mid-Level Exercise 2 | a01m2NatConf.accdb a01m2Analysis.docx | a01m2NatConf\_LastFirst.accdb a01m2NatConf\_LastFirst\_CurrentDate.accdb a01m2Analysis\_LastFirst.docx |
| Mid-Level Exercise 3  (Running Case) | a01m3NCCTS.accdb | a01m3NCCTS\_LastFirst.accdb a01m3NCCTS\_LastFirst\_CurrentDate.accdb |
| BYC General Case |  | a01b1Students\_LastFirst.accdb |
| BYC Disaster Recovery | a01b2Lugo\_Backup.accdb | a01b2Lugo\_LastFirst.accdb |
| Capstone | a01c1Books.accdb | a01c1Books\_LastFirst.accdb a01c1Books\_LastFirst\_CurrentDate.accdb |

## CHAPTER REVIEW/ANSWERS TO END OF CHAPTER MATERIAL

### Key Terms Matching Answer Key

1. A filtering method that displays only records that match selected criteria.  
**Q. Selection filter**

2. A filtering method that displays records based on multiple criteria.  
**H. Filter by Form**

3. A main component that is created and used to make a database function, such as a table or form.   
**K. Object**

4. A method of listing records in a specific sequence (such as alphabetically).   
**R. Sort**

5. A predefined database that includes professionally designed tables, forms, reports, and other objects.   
**T. Template**

6. A question you ask about the data in your database.   
**M. Query**

7. An Access interface element that organizes and lists database objects in a database.   
**J. Navigation Pane**

8. An Access object that simplifies entering, modifying, and deleting table data.   
**I. Form**

9. A set of common Access components that can be added to an existing database.   
**A. Application part**

10. An object that contains professional-looking formatted information from underlying tables or queries.  
**P. Report**

11. An object used to store data, organizing data into columns and rows.   
**S. Table**

12. Complete set of all the fields about one person, place, event, or concept.   
**N. Record**

13. The field (or combination of fields) that uniquely identifies each record in a table.   
**L. Primary key**

14. View that enables you to create and modify a table design.   
**E. Design view**

15. A collection of data organized as meaningful information that can be accessed, managed, stored, queried, sorted, and reported.   
**B. Database**

16. A connection between two tables using a common field.   
**O. Relationship**

17. A grid that enables you to add, edit, and delete the records of a table.   
**D. Datasheet view**

18. A piece of information stored in a table, such as a company name or city.   
**F. Field**

19. A software system that provides the tools needed to create, maintain, and use a database.   
**C. Database management system (DBMS)**

20. Enables you to specify conditions to display only those records that meet certain conditions.   
**G. Filter**

### Multiple Choice Answer Key

1. Which of the following is an example of an Access object?

**c. Form**

2. Where is data in a database stored?

**d. Table**

3. You edit several records in an Access table. When should you execute the Save command?

**c. Records are saved automatically; the save command is not required**

4. Which of the following is not true of an Access database?

**c. Every table in a database contains the same number of records as every other table.**

5. Which of the following is true regarding table views?

**d. Changes made in Datasheet view are automatically saved when you more the insertion point to a different record.**

6.Which of the following utilities is used to recover in the event of loss or damage?

**a. Back Up Database**

7. Which of the following would be matched if you use a Selection filter’s exact match option for the name Ann?

**a. Ann, ANN, and ann**

8. Which of the following conditions is available through a Selection filter?

**a. Equal condition**

9. All of the following statements are true about creating a database except:

**d. The objects provided in a template cannot be modified.**

10. To add a predefined table to an existing database, you should use which of the following?

**a. Application part**

### Quick Concept Check Answer Key

1. Name the four main types of objects in an Access database and briefly describe the purpose of each.   
   **Tables store the data in the database.**

**Queries are used to display only records that meet certain conditions and only the fields that you require.**

**Forms give the user a way of entering data into the database.**

**Reports enable the user to present professional-looking information from tables or queries**

1. What is the difference between Datasheet view and Design view in a table?   
   **The Datasheet view is a grid containing columns (fields) and rows (records), similar to an Excel spreadsheet in which the user can view, add, edit, and delete. The Design view gives the user a detailed view of the table’s structure and is used to create and modify a table’s design by specifying the fields it will contain, the fields’ data types, and their associated properties.**
2. How does Access handle saving differently than other Office programs such as Excel?  
   **As you enter and update the data in an Access database, the changes are automatically saved in the storage location you specified when you saved the database rather than working from memory as Excel does.**
3. How do relationships benefit a database user?

**The benefit of a relationship is the ability to efficiently combine data from related tables for the purpose of creating queries, forms, and reports.**

1. What is the purpose of creating a filter?  
   **A filter enables you to view a subset of records based on specified criteria.**
2. What is the difference between a Selection filter and Filter by Form?   
   **A Selection filter lets you filter records by a single field while Filter by Form lets you filter records based on multiple criteria.**
3. What is a comparison operator and how is it used in a filter?   
   **Comparison operators can be used to evaluate the relationship between two quantities. A comparison operator can be used in a filter to determine if two quantities are equal, not equal, greater than, less than, greater than or equal to, or less than or equal to.**
4. What are the benefits of sorting the records in a table?   
   **Sorting enables you to list records in a specific sequence, such as alphabetically by last name, making information easier to locate and organizing the information.**
5. What is a custom web app, and what is required to build a custom web app?  
   **A custom web app is a database that can be used and shared with others. It requires a host server.**
6. What are two benefits of using a template to create a database?  
   **Using a template saves time because it jumpstarts database creation. It also helps a new Access user become familiar with database design.**
7. If you want to add a component to an existing database (such as a Contacts table), what would you use?  
   **An application part enables you to add a set of common Access components to your database, such as a table, a form, and a report for a related task.**