Instructor’s Manual Materials to Accompany

EXPLORING MICROSOFT® OFFICE 2013, VOLUME 1

## EXCEL CHAPTER 10: IMPORTS, WEB QUERIES, AND XML

### Available Instructor Resources

|  |  |  |
| --- | --- | --- |
| **Resource** | **File Name** | **Found** |
| **Student Data Files** | various | Online Instructor Resource Center |
| **Solution Files** | various | Online Instructor Resource Center |
| **Answer Keys** |  | Online Instructor Resource Center |
| Matching | e10\_answerkey\_match |
| Multiple Choice | e10\_answerkey\_mc |  |
| Concepts Checks | e10\_answerkey\_concepts |  |
| **Scorecards** | e10b1Tips\_scorecard | Online Instructor Resource Center |
| **Scoring Rubrics** | e10b1Tips\_rubric | Online Instructor Resource Center |
| **Annotated Solution File** | e10b1Tips\_annsolution | Online Instructor Resource Center |
| Scripted Lecture (Script) | e10\_script | Online Instructor Resource Center |
| Scripted Lecture Solution | e10\_script\_solution |
| Scripted Lecture Data | e10\_script\_data |  |
| **PowerPoint Presentation** | e10\_powerpoints | Online Instructor Resource Center |
| **Testbank** | e10\_testbank | Online Instructor Resource Center |
| **Instructor's Manual (lesson plans incl.)** | e10\_instructormanual | Online Instructor Resource Center |
| **Assignment Sheet** | e10\_assignsheet | Online Instructor Resource Center |
| **Prepared Exam (Chapter & App)** |  | Online Instructor Resource Center |
| Prepared Exam-Chap instruction | e10\_exam\_chap\_instruction |
| Prepared Exam-Chap solution | e10\_exam\_chap\_solution |
| Prepared Exam-Chap Data | e10\_exam\_chap\_data |
| Prepared Exam-Chap Annotated Sol. | e10\_exam\_chap\_annsolution |
| Prepared Exam-Chap Scorecard | e10\_exam\_chap\_scorecard |
| Prepared Exam-App instruction | e10\_cumexam\_instruction |  |
| Prepared Exam-App solution | e10\_cumexam\_solution |  |
| Prepared Exam-App Data | e10\_cumexam\_data |  |
| Prepared Exam-App Annotated Sol. | e10\_cumexam\_annsolution |  |
| Prepared Exam-App scorecard | e10\_cumexam\_scorecard |  |
| **File Guide** | e10\_file\_guide | Online Instructor Resource Center |
| **Instructor Resource Card** | e10\_ircard | Online Instructor Resource Center |
| **Objective Map** | e10\_objectivesmap | Online Instructor Resource Center |
| **Online Chapter Review** | e10\_chapt\_checklist | Companion Website for Students |
| **Grader Project** |  |  |
| Grader-instruction | e10\_grader\_instruction | Online Instructor Resource Center |
| Grader-solution | e10\_grader\_solution |
| Grader-data | e10\_grader\_data |
| Grader-annoted. Solution | e10\_grader\_annsolution |  |
| Grader-scorecard | e10\_grader\_scorecard |  |
| **Additional Projects (Practice & Mid Level)** |  | Online Instructor Resource Center |
| Additional Proj-Practice instruction | e10\_p\_addproject\_instruction |
| Additional Proj- Practice solutions | e10\_p\_addproject\_solution |
| Additional Proj-Practice Data | e10\_p\_addproject\_data |
| Additional Proj-Practice Ann Sol. | e10\_p\_addproject\_annsolution |
| Additional Proj-Practice Scorecard | e10\_p\_addproject\_scorecard |
| Additional Proj-Mid Level instruction | e10\_ml\_addproject\_instruction |  |
| Additional Proj-Mid Level solutions | e10\_ml\_addproject\_solution |
| Additional Proj-Mid Level Data | e10\_ml\_addproject\_data |
| Additional Proj-Mid Level Ann Sol. | e10\_ml\_addproject\_annsolution |  |
| Additional Proj-Mid Level Scorecard | e10\_ml\_addproject\_scorecard |  |

### CHAPTER OBJECTIVES

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

* Import data from external sources
* Create a Web query
* Manage connections
* Convert text to columns
* Manipulate text with functions
* Use Flash Fill
* Understand XML syntax
* Import XML data into Excel

### CHAPTER OVERVIEW

#### The major sections in this chapter are:

1. **External Data:** Importing data from external sources; creating a Web query; managing connections
2. **Text Manipulation:** Converting text to columns; manipulating text with functions; using Flash Fill
3. **XML:** Understanding XML syntax;importing XML data into Excel

### CLASS RUNDOWN

1. Have students turn in homework assignments.
2. Talk about chapter using discussion questions listed below.
3. Use PowerPoint presentation to help students understand chapter content.
4. Demonstrate Excel 2013.
5. Run through Scripted Lectures for chapter.
6. Have students complete Capstone Exercise for Excel Chapter 10.
7. Use MyITLab for in-class work or to go over homework.
8. Give students Homework Handout for next class period.

### LEARNING OBJECTIVES

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

* Import a text file
* Import an Access database table
* Create Web queries for multiple stocks
* Create a Web query for historical stock data
* Maintain connections
* Convert text to columns
* Use the PROPER function
* Use the SUBSTITUTE function
* Use Flash Fill
* Import XML data
* Change the XML document
* Refresh the XML data in Excel

### KEY TERMS

**Comma-separated value (CSV) file –** A text file that uses commas to separate text into columns and a newline character to separate data into rows.

**CONCATENATE function –** A text function that joins two or more text strings into one text string.

**Data range property –** A setting that controls the format, refresh rate, and other characteristics of a connection to external data.

**Delimiter –** A character, such as a comma or tab, used to separate data in a text file.

**Element –** An XML component, including the start tag, an end tag, and the associated data.

**Embed –** The process of importing external data into an application but not maintaining any connection to the original data source.

**End tag –** An XML code that indicates the end of an element and contains the element’s name proceeded by a slash character, such as </Rent>.

**Extensible –** Characteristics that indicate that XML can be expanded to include additional data.

**eXtensible Markup Language (XML) –** A data-structuring standard that enables data to be shared across applications, operating systems, and hardware.

**Fixed-width text file –** A text file that stores data in columns that have a specific number of characters designated for each column.

**Flash Fill –** A feature that fills in data or values automatically based on one or two examples you enter using another part of data entered in a previous column in the dataset.

**Importing –** The process of inserting data from one application or file into another.

**LOWER function –** A text function that converts all uppercase letters to lowercase.

**Newline character –** A character that designates the end of a line and starts data on a new line or row in a text file.

**PROPER function –** A text function that capitalizes the first letter in a text string and any other letters in text that follow any character other than a letter.

**Refresh –** The process of updating data in Excel to match current data in the external data source.

**Start tag –** An XML code that indicates the starting point for an element and contains the element’s name, such as <Rent>.

**SUBSTITUTE function –** A text function that substitutes new text for old text in a text string.

**Tab-delimited file –** A text file that uses tabs to separate data.

**Tag –** A user-defined marker that identifies the beginning or ending of a piece of data in an XMLdocument.

**Text file –** A data file that contains letters, numbers, and symbols only; it does not contain formatting, sound, or video.

**UPPER function –** A text function that converts text to uppercase letters.

**Web query –** A data connection that links an Excel worksheet to a particular data table on a Web page.

**XML declaration –** A statement that specifies the XML version and character encoding used in the XML document.

### DISCUSSION QUESTIONS

* Why should you be careful when importing data from external sources? What hazards could you encounter?
* What concerns should you have when downloading data from a Web source?
* Why would an employer consider automating the data import process?

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

* Import a text file
* Import an Access database table
* Create Web queries for multiple stocks
* Create a Web query for historical stock data
* Maintain connections
* Convert text to columns
* Use the PROPER function
* Use the SUBSTITUTE function
* Use Flash Fill
* Import XML data
* Change the XML document
* Refresh the XML data in Excel

### CONNECTIONS PRACTICAL PROJECTS AND APPLICATIONS

* Create a worksheet for your playlist from iTunes or similar services using a Web query. Why would you use this?
* If possible, use a Web query to obtain your transcript, current or future class schedule, list of courses for your major, and so forth.

### TEACHING NOTES

#### External Data

*Importing external data maintains greater accuracy than manually entering the data.*

1. Importing Data from External Sources

* You can create different types of “dummy” data for use while practicing Excel skills. If you need random dates, enter =RANDBETWEEN(StartDate,EndDate) in the desired cell. For text fields, you can use the INDEX function and enter =INDEX(List, RANDBETWEEN(1, COUNTA(List))). Random integers can be obtained by entering =RANDBETWEEN(Start, Finish) or =RANDBETWEEN(50, 100) to get integers between 50 and 100. There are also online sources of random data, including open source data.
* You also can create random text in a Word document. To do so, enter =RAND(number, number), where the first number equals the number of paragraphs desired and the second number equals the number of lines per paragraph. This provides you with a document that you can use to import text into Excel, instead of risking a “real” document for practice purposes.
* **Teaching** **Tip**: When you select an import type, such as From Text, in the Get External Data group on the Data tab, you create a connection to the original data file. This approach enables you to refresh the data in Excel to match any changes made to the original file, as long as the original source file is in the same location.
* **Teaching Tip**: If you do not want to create a link to the Access database table, you can open the table in Access, select the table including field names, copy it, and then paste the data in Excel.
* **Teaching** **Tip**: If you select Space as a delimiter, you will import company names into separate columns. For example, the text Home Depot, Inc., will appear in three separate cells. You cannot use the comma as a delimiter for a similar reason: Home Depot will appear in one cell and Inc. will appear in a separate cell.

1. Creating a Web Query

* When copying or downloading data from a Web page, you still need to credit the original author(s) of the data. If using the data for a research paper, for instance, the author or source must be cited. In addition, you must be able to judge the qualitative nature of the data you are downloading.
* When creating web queries, make sure you spell data correctly. Mistypes or omissions can return inaccurate results or produce an error message.
* **Teaching** **Tip**: If a Script Error dialog box opens, click Yes to continue running scripts on this page. This error may occur several times.
* **Teaching** **Tip**: Before setting up a Web query, you should be aware of its limitations. First, not all Web pages contain data that are structured as a table. Data may appear to be in a table format, but if they are not formatted a particular way, you will not be able to create a Web query to the data. Second, Excel connects a Web query to a specific URL. If the URL changes, you must change the URL specified in your Web query to prevent errors. Third, if you have to log in to a Web site, the query generally will not work because it has no built-in feature to store your login and password.
* **Teaching** **Tip**: If you do not want to create a link to a Web page, you can select the data on the Web page in a Web browser, copy them, and then paste the data in Excel. Some Web pages have links that will download a CSV file that directly opens into Excel or one you can save to your computer and then open from within Excel.

1. Managing Connections

* Data changes in Web pages periodically, and it is a good idea to refresh the connections each time you open the Web page to ensure you have the most recent data.

#### Text Manipulation

*Data imported from external sources may need to be reformatted or restructured to be useful.*

1. Converting Text to Columns

* The formatting of the data in the spreadsheet—whether as text, currency, general, and so forth—affects what and how you can work with it. Some functions and tools in Excel will not work if the data is not formatted for that tool.
* **Teaching** **Tip**: Allow enough columns to the right of the column containing text to separate to avoid overwriting data. Excel does not insert new columns. It separates data by placing them into adjoining columns. If you have a first name, middle name, and last name all in one column and you separate to get a first name column, middle name column, and last name column, you must have two empty columns. If the columns on the right side of the original column to split are not empty, Excel will overwrite existing data.
* **Teaching** **Tip**: If you do not deselect all but the Other check box, the data may not separate correctly into columns.

1. Manipulating Text with Functions

* The SUBSTITUTE function lets you replace existing text data in one or more cells with new text, or even blank spaces. Discuss how this is both similar but different from the REPLACE function.
* **Teaching** **Tip**: Use the ampersand (&) operator instead of the CONCATENATE function to join text items. For example, =A4&B4 returns the same value as =CONCATENATE(A4,B4).
* **Teaching Tip**: Text functions are often used in nested functions. You can nest text functions, such as nesting the CONCATENATE function inside an UPPER function argument. For example, =UPPER((CONCATENATE(A2,”, ”,A3)) concatenates the contents of cells A2, a comma and a space, and the contents of cell A3. The concatenated result is then converted to uppercase.
* **Teaching** **Tip**: If you attempt to leave the New\_text argument blank, an error will occur.

1. Using Flash Fill

* Flash Fill formatting—new to Excel 2013—anticipates formatting and data requirements. Demonstrate how the Flash Fill feature can use Excel’s AutoComplete functionality to finish the work you started—then discuss when and why students should use care with this tool.

#### XML

*XML is an industry standard for structuring data across applications, operating systems, and hardware.*

1. Understanding XML Syntax

* XML, introduced with Office 2007, provides a consistent set of tags for data, which allows the documents to easily exchange information with Web services and other documents. Discuss advantages to the XML format—smaller file size, easier file recovery, more security, and better privacy.
* **Teaching Tip**: Typically, people use Notepad, or any text editor, to create an XML document, switch to a Web browser, such as Internet Explorer, to view the XML document, and then switch back to Notepad to make any changes.

1. Importing XML Data into Excel

* Excel 2013 has three new formulas that help users obtain and analyze XML or HTML data from the Web. These formulas are ENCODEURL (encodes Web URLs), WEBSERVICE (connects to a Web service or website and returns the response as XML/HTML), and FILTERXML (extracts a portion of the XML/HTML using a specified XPath).
* **Teaching** **Tip**: Be careful when editing the XML document that you do not delete any of the tags. If so, you will need to retype the tags to avoid error messages.
* **Teaching** **Tip**: If you are unable to save the XML file in Notepad, close the Excel workbook, save the XML file in Notepad, and then open the Excel workbook again.

### ONLINE CHAPTER REVIEW

To find an online chapter review to help your students practice for tests, visit the Companion Website at <http://www.pearsonhighered.com/exploring/>.

### ADDITIONAL WEB RESOURCES

1. What's new in Excel 2013—<http://office.microsoft.com/en-us/excel-help/what-s-new-in-excel-2013-HA102809308.aspx>
2. Online Excel Help—[www.mrexcel.com](http://www.mrexcel.com)
3. Microsoft Tech Support—<http://support.microsoft.com>

### PROJECTS AND EXERCISES

|  |  |  |
| --- | --- | --- |
|  | **Data file** | **Save As** |
| Hands-On Exercise 1 | e10h1Stock.txt e10h1MoreStocks.accdb | e10h1Stock\_LastFirst.xlsx |
| Hands-On Exercise 2 | e10h1Stock\_LastFirst.xlsx | e10h2Stock\_LastFirst.xlsx |
| Hands-On Exercise 3 | e10h2Stock\_LastFirst.xlsx e10h3HighClose.xml | e10h3HighClose\_LastFirst.xml e10h3Stock\_LastFirst.xlsx |
| Practice Exercise 1 |  | e10p1Travel\_LastFirst.xlsx, e10p1Travel\_LastFirst.docx |
| Practice Exercise 2 | e10p2Names.txt | e10p2Names\_LastFirst.xlsx |
| Practice Exercise 3 | e10p3People.xml e10p3Employees.xlsx | e10p3People\_LastFirst.xml e10p3Employees\_LastFirst.xlsx |
| Mid-Level Exercise 1 | e10m1Weather.xlsx | e10m1Weather\_LastFirst.xlsx |
| Mid-Level Exercise 2 | e10m2Animals.xml | e10m2Animals\_LastFirst.xml e10m2Animals\_LastFirst.xlsx |
| Mid-Level Exercise 3 (Collaboration) |  | e10m3Movies\_LastFirst.accdb e10m3Movies\_LastFirstLastFirst.accdb e10m3Movies\_LastFirst.xlsx |
| BYC 2 Research | e10b2TextFlash.xlsx | e10b2TextFlash\_LastFirst.xlsx |
| BYC 3 Disaster Recovery | e10b3Books.xml | e10b3Books\_LastFirst.xml e10b3Books\_LastFirst.xlsx |
| BYC 4 Soft Skills |  | e10b4Harassment\_LastFirst.xlsx |
| Capstone | e10c1Airlines.txt e10c1Airports.xmle10c1Departures.xlsx | e10c1Airlines\_LastFirst.txt e10c1Airports\_LastFirst.xml e10c1Departures\_LastFirst.xlsx |

### CHAPTER REVIEW/ANSWERS TO END OF CHAPTER MATERIAL

**Key Terms Matching Answer Key**

1. The **LOWER function (J)** is a function that converts all uppercase letters to lowercase.

2. An **Element (D)** is an XML component, including the start tag, an end tag, and associated data.

3. A **Start tag (M)** is an XML code indicating an element’s starting point and element’s name.

4. A **Comma separated values (CSV) file (A)** is a file that uses commas to separate text into columns.

5. A **Text file (Q)** is a file that contains letters, numbers, and symbols only; it does not contain formatting, sound, or video.

6. A **Delimiter (C)** is a character used to separate data in a text file.

7. The **PROPER function (K)** is a function that capitalizes the first letter in a text string and any other letters in text that follow any character other than a letter.

8. A **Tab-delimited file (O)** is a file that uses tabs to separate text into columns.

9. An **End tag (E)** is an XML code indicating an element’s ending point and name.

10. The **CONCATENATE function (B)** is a function that joins two or more text strings into one text string.

11. A **Web query (S)** is a data connection that links an Excel worksheet to a particular data table on a Web page.

12. **eXtensible Markup Language (XML) (F)** is a data-structuring standard for sharing data across applications, operating systems, and hardware.

13. A **Tag (P)** is a user-defined marker that identifies the beginning or ending of a piece of XML data.

14. A **Fixed-width text file (G)** is a file that stores data in columns that have a specific number of characters designated for each column.

15. **Refresh (L)** is the process of updating data in Excel to match current data in the external data source.

16. **Importing (I)** is the process of inserting data from one application or file into another.

17. The **SUBSTITUTE function (N)** is a function that substitutes new text for old text in a text string.

18. **Flash Fill (H)** is a feature that fills in data or values automatically based on one or two examples you enter.

19. The **UPPER function (R)** is a function that converts text to uppercase letters.

**Multiple Choice Answer Key**

1. A text file separates data by a special character called a:   
**(a) Delimiter.**

2. You created a Web query to determine how many bushels of corn were harvested in your state last year. You referenced a USDA Web page. You need to view that page again and cannot remember the URL. You should:  
**(d) Use the Find command to locate the URL.**

3. Last week, you created a Web query in Excel to import price and volume data about the stocks that interest you from a Web site. You open the file today and refresh the data. What will your spreadsheet show?  
**(c) The new values with the calculations reflecting the current values of the stocks.**

4. Your co-worker created a workbook with a list of names and addresses. The state abbreviation and Zip Code are stored in one cell per customer, such as NC 27215. You need to be able to sort these data by postal code to use bulk rate mailing. The appropriate Excel action is to:  
**(a) Type 27215 in the cell to the right of NC 27215 and use Flash Fill.**

5. A workbook contains addresses in column C. The addresses use commas after the street, city, and state, such as 129 West Main Street, Burlington, NC, 27215. Column D contains the phone number. You instruct Excel to divide the data into multiple columns using comma delimiters. You successfully divide the column into four columns. What happens to the phone numbers in column D?  
**(b) The phone numbers are overwritten by the cities.**

6. The text in column D is in uppercase letters. You want to convert the text to an initial capital letter followed by lowercase letters. You should use the \_\_\_\_ function.  
**(d) PROPER**

7. You received an inventory report showing what items and the qualities of each your store has in stock. All merchandise has a unique inventory number stored in column B. All items’ eight-digit inventory numbers begin with 9890. You want to remove the 9890 prefix to better sort and manage the list. In a new column, insert the \_\_\_\_ function to show just the final four digits of the data in column B.  
**(c) RIGHT(B2,4)**

8. One advantage of using XML data is that:  
**(a) Data are not dependent on a specific operating system.**

9. When using the Use XML Source task pane option, you may not:  
**(d) Import all elements by default.**

10. Examine the following XML code and select the TRUE statement.

<internship>

<position>Help Desk Trainee</position>

<pay>10.50</pay>

<payperiod>hour</payperiod>

<hours>mornings</hours>

</internship>

**(c) Only applicants available in the mornings will be considered.**