

Make sure you are using the latest version of this free e-book

Excel 2016 is the first Excel version that is updated twice a year with new features. For this reason, it is important that you use the latest version of this free book. This book covers the **Sep 17** release of Excel 2016.

There will be a new e-book released on **9th Jan 2017** (when the next major Excel 2016 update will be implemented). You can always download the most recent version of this book completely free of charge from: *ExcelCentral.com*. Excel versions are explained in detail at the start of this e-book, in: *Lesson 1-2: Check that your Excel version is up to date*.

Why you should use this free e-book

- **Learning success is guaranteed.** For over fifteen years, Smart Method® classroom courses have been used by large corporations, government departments and the armed forces to train their employees. This book has been constantly refined (during hundreds of classroom courses) by observing which skills students find difficult to understand and then developing simpler ways of explaining them. This has made the book effective for students of all ages and abilities. We have never had a student who has failed to learn Excel after taking one of our courses.
- **It is up-to-date.** The original version of Excel 2016 was released in Oct 2015. Twice each year, Microsoft release a new version of Excel 2016. The latest version of this book is always up-to-date with the latest semi-annual release of Excel 2016. This means that the screen grabs will exactly match what you see on your screen and the instructions will be easy to follow. It can be very frustrating to try to learn Excel 2016 using an out-of-date book (as most are).
- **It is the preferred choice for teachers.** As well as catering for those wishing to learn Excel by self-study, Smart Method® books have long been the preferred choice for Excel teachers as they are designed to *teach* Excel and not as reference books. Books follow best-practice adult teaching methodology with clearly defined objectives for each learning session and an exercise to confirm skills transfer. With single, self-contained lessons the books cater for any teaching period (from minutes to hours).
- **It is free (and you can print it).** Because this book is **free of charge**, schools, colleges, universities and businesses are able to teach their students best-practice Excel skills without the substantial cost of designing lesson plans or purchasing books. If printed copies are needed you can print them yourself, or any copy shop can print books for you.
- **Smart Method books are #1 best sellers.** While this book is **entirely free of charge**, every paper printed Smart Method® Excel book (and there have been nine of them starting with Excel 2007) has been an Amazon #1 best seller in its category. This provides you with the confidence that you are using a best-of-breed resource to learn Excel.
- **No previous exposure to Excel is assumed.** You will repeatedly hear the same criticism of most Excel books: “you have to already know Excel to understand the book”. This book is different. If you’ve never seen Excel before, and your only computer skill is using a web browser, you’ll have absolutely no problems working through the lessons. No previous exposure to Excel is assumed and everything is explained clearly and in a simple way that absolutely any student, of any age or ability, can easily understand.
- **It focuses upon the everyday Excel skills used in the workplace.** This free *Basic Skills* book will teach you the basics without confusing you with more advanced, less used, Excel features. If you decide to expand your Excel education you’ll be able to move on to other Smart Method® books (or e-books) in this series to master even the most advanced Excel features.

Learn Excel in just a few minutes each day (or in one five-hour sitting)

Excel is a huge and daunting application and you'll need to invest some time in learning the skills presented in this book. This will be time well spent as you'll have a hugely marketable skill for life. With 1.2 billion users worldwide, it is hard to imagine any non-manual occupation today that doesn't require Excel skills.

This book makes it easy to learn at your own pace because of its unique presentational style. The book contains 42 self-contained lessons and each lesson only takes a few minutes to complete.

You can complete as many, or as few, lessons as you have the time and energy for each day. Many learners have developed Excel skills by setting aside just a few minutes each day to complete a single lesson. Others have worked through the entire book in less than five hours.

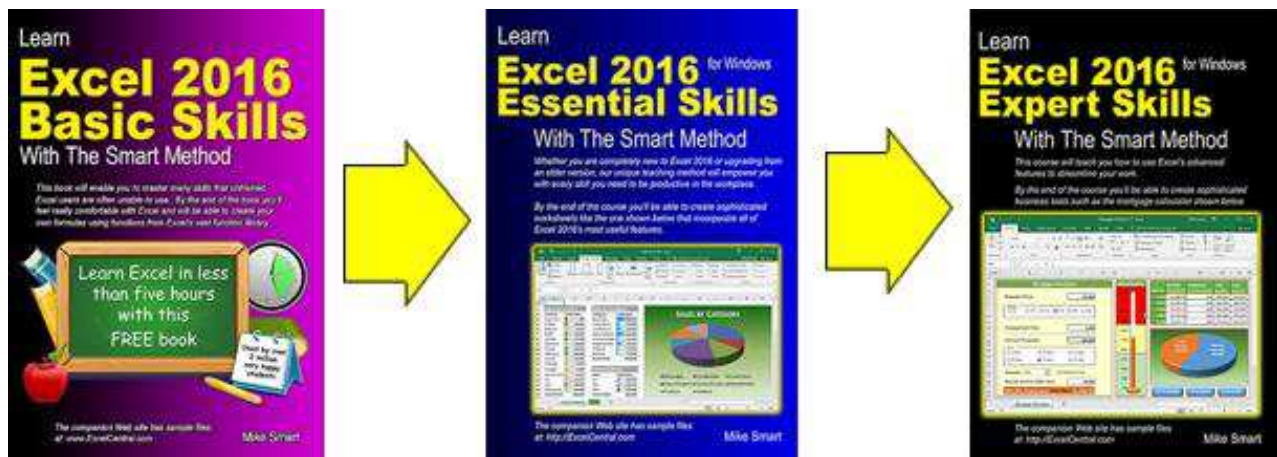
Hardly anybody understands how to use every Excel feature

It is important to realize that Excel is probably the largest and most complex software application ever created. Hardly anybody understands how to use *every* Excel feature and, for almost all business users, large parts of Excel's functionality wouldn't even be useful.

Many learners make the fundamental error of trying to learn from an Excel reference book that attempts to document (though not teach) *everything* that Excel can do. Of course, no single book could ever actually do this. (There are some advanced Excel features that easily justify an entire book of their own).

This free *Basic Skills* book will teach you the basic Excel skills that are used every day, in offices all over the world. The book's objective is to teach the basics without confusing you by including more advanced, less used, Excel features.

If you decide to expand your Excel education you'll be able to use other books in this series to master even the most advanced Excel features.



By the end of this free **Basic Skills** book you'll be completely comfortable creating your own formulas using functions from Excel's vast function library. You'll also have mastered fundamental Excel skills such as *AutoSum*, *AutoFill*, *Formula Autocomplete* and *Flash Fill*. You'll be confident in the knowledge that you are using Excel's features in the correct, best-practice, professional way and you'll feel really at home with Excel.

Introduction

Who is this book for?

This book is for Excel 2016 users who:

- Need to acquire basic Excel skills quickly.
- Have never used Excel before.

This *Basic Skills* book provides a 100% effective (and completely free) way for new learners to acquire basic Excel skills with little or no past exposure to Excel.

This book is only suitable for learning Excel 2016 for Windows

This free book is written purely for *Excel 2016* (also called *Excel 365*) and we strongly recommend that you use this Excel version. Our research suggests that almost eighty percent of our readers are currently using Excel 2016.

If you are currently using Excel 2007, Excel 2010 or Excel 2013 you should ideally upgrade to Excel 2016. If upgrading isn't possible you can download a 2007, 2010 or 2013 version of this *Basic Skills* course from the <http://ExcelCentral.com> website.

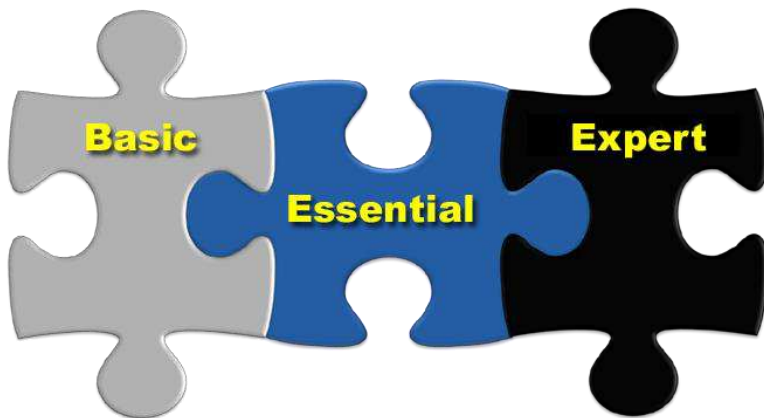
If you have an Apple Mac you need one of our Apple Mac Excel books

This book isn't suitable for Apple Mac users. The Mac versions of Excel have a reduced feature set and a radically different user interface to the Windows versions. We don't publish a book for older versions of Excel for the Mac but we do have a Mac version for Excel 2016. You can download: *Learn Excel 2016 Basic Skills for Mac OS X with The Smart Method* from the ExcelCentral.com web site.

Excel competence levels

Office workers who use Excel every day for a living generally only use (and only need) a tiny fraction of Excel's enormous feature set.

Excel is a huge application with thousands of features. For most users it is a mistake to attempt to learn every Excel feature but, instead, to learn Excel to a competence level that is appropriate for your needs.



Basic Skills

This is where you will be at the end of this book. You'll feel really comfortable with Excel. Even at *Basic Skills* level you'll have mastered many skills that most untrained Excel users are unable to use correctly. You'll also be using the correct professional techniques rather than "muddling through" in the way that most self-taught Excel users do. You'll be able to create your own formulas using functions from Excel's vast function library and have a complete mastery of fundamental Excel features such as *AutoFill* and *Flash Fill*.

Essential Skills

At this level you will have excellent Excel skills, good enough to impress any employer, and your Excel skills will be better than most office workers (even those with many years of experience). You'll be able to create beautifully laid-out worksheets that will really impress. You'll also have mastered many advanced features that few Excel users understand such as *absolute and relative cell references*, *visualizations*, *advanced charts*, *conditional formatting*, *date serial numbers*, *themes* and *cloud computing*. You can see a full list of the lessons in the *Essential Skills* course at the back of this book in: *Appendix A: Skills Covered in the follow-on Essential Skills Course*.

Expert Skills

At *Essential Skills* level you'll be really, really good with Excel. If you want to join the tiny elite of power-users who can do absolutely everything with Excel you can move to expert level and become a true Excel guru.

This is an extremely high level of Excel competence that is very rarely found in the workplace (even amongst top professionals). Your Excel skills will be greater and broader than almost all other Excel users and you will understand (and be able to use) absolutely every Excel feature. You'll have a complete mastery of skills that are often even a mystery to Excel power users such as *Excel data models*, *many to many relationships*, *power maps*, *solver*, *macros* and *get & transform*. You can see a full list of the lessons in the Expert Skills course in: *Appendix B: Skills Covered in the follow-on Expert Skills Course*.

We encourage you to print this free book

Unlike most e-books, this one isn't locked to prevent printing (this is also true for all other Smart Method e-Books, provided they are obtained from ExcelCentral.com).

For classroom use we recommend that you print this book

While this book is ideal for self-instruction, it is also ideal for teaching structured, objective-led, and highly effective classroom courses.

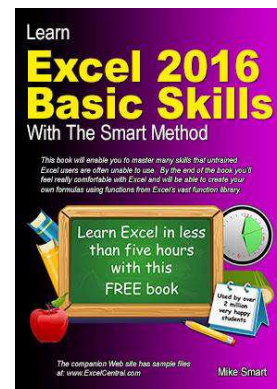
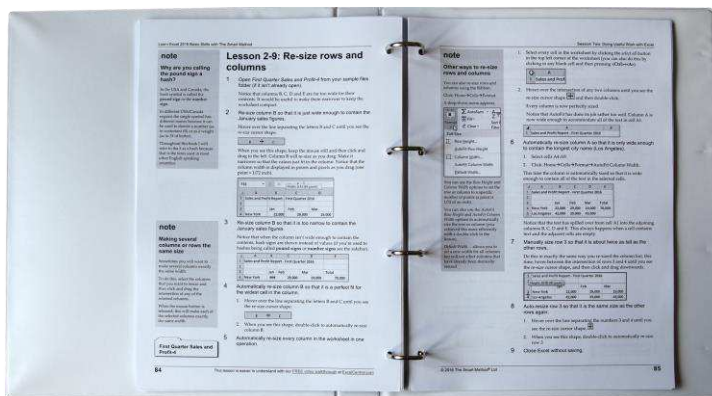
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2. The printed book must always be provided entirely free. It is permissible, however, to give free copies of the book to students who attend a class or course that they have paid for.

For classroom courses you can obtain a professional-looking result by printing (double-sided) on A4 paper (black and white printing will be cheaper). You can then punch the pages and place them into a four-hole A4 binder. Make sure that odd pages appear on the right-hand side. This enables each two-page lesson to be viewed without turning the page.

For a professional touch you can also put a color insert onto the front cover. Here's how it then looks:



You can download the two files you need from here:

<http://ExcelCentral.com/print>

Any copy shop will do the entire job for you for a very reasonable price if you provide them with the two PDF files you'll find there. We've even included instructions for how to print and bind the book (that you can give to the copy shop if you want to outsource the printing and binding).

We can also supply a Basic Skills books to you perfect-bound at our cost price

If you live in the USA it is usually cheaper (than a copy shop) to order printed books from ourselves perfect bound with a color cover. This is offered as a non-profit making service (you may not sell the books but you can give them away free to your students). Advise the quantity required and delivery location for a quotation by return using the contact form at: <http://ExcelCentral.com/support>

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SECOND EDITION

(covering Sep 2017 semi-annual release)

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Support, Feedback and Sample Files

Welcome to *Learn Excel 2016 Basic Skills With The Smart Method*®. This book has been designed to enable students to master Excel 2016 by self-study. The book is equally useful as courseware in order to deliver courses using The Smart Method® teaching system.

Smart Method publications are continually evolving as we discover better ways of explaining or teaching the concepts presented.

Feedback

At The Smart Method® we love feedback – both positive and negative. If you have any suggestions for improvements to future versions of this book, or if you find content or typographical errors, the author would always love to hear from you.

You can make suggestions for improvements to this book using the online form at:

<http://ExcelCentral.com/support>

Future editions of this book will always incorporate your feedback so that there are never any known errors at time of publication.

If you have any difficulty understanding or completing a lesson, or if you feel that anything could have been more clearly explained, we'd also love to hear from you. We've made hundreds of detail improvements to our books based upon reader's feedback and continue to chase the impossible goal of 100% perfection.

Downloading the sample files

In order to use this book it is sometimes necessary to download sample files from the Internet. The sample files are available from:

<http://ExcelCentral.com>

Type the above URL into your web browser and you'll see the link to the sample files at the top of the home page.

Problem resolution

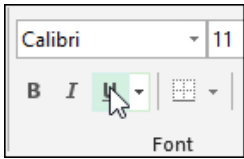
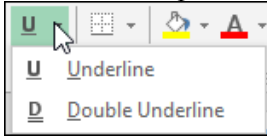
If you encounter any problem using the course or downloading the sample files you can contact us using the online form at:

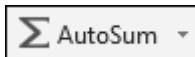
<http://ExcelCentral.com/support>

We'll do everything possible to quickly resolve the problem.

Typographical Conventions Used in This Book

This guide consistently uses typographical conventions to differentiate parts of the text.

When you see this	Here's what it means
Click <i>Line Color</i> on the left-hand bar and then click <i>No line</i> .	Italics are used to refer to text that appears in a worksheet cell, an Excel dialog, on the Ribbon, or elsewhere within the Excel application. Italics may sometimes also be used for emphasis or distinction.
Click: Home→Font→Underline. 	Click on the Ribbon's <i>Home</i> tab and then look for the <i>Font</i> group. Click the <i>Underline</i> button within this group (that's the left-hand side of the button, not the drop-down arrow next to it). Don't worry if this doesn't make sense yet. We cover the Ribbon in depth in session one.
Click: Home→Font→Underline Drop Down→Double Underline. 	Click on the Ribbon's <i>Home</i> tab and then look for the <i>Font</i> group. Click the drop-down arrow next to the <i>Underline</i> button (that's the right-hand side of the button) within this group and then choose <i>Double Underline</i> from the drop-down list.
Click: File→Options→Advanced→General→Edit Custom Lists→Import	This is a more involved example. <ol style="list-style-type: none">1. Click the <i>File</i> tab on the Ribbon, and then click the <i>Options</i> button towards the bottom of the left-hand pane. The <i>Excel Options</i> dialog appears.2. Choose the <i>Advanced</i> list item in the left-hand pane and scroll down to the <i>General</i> group in the right-hand pane.3. Click the <i>Edit Custom Lists...</i> button. Yet another dialog pops up.4. Click the <i>Import</i> button.
Type: European Sales into the cell.	Whenever you are supposed to actually type something on the keyboard it is shown in bold faced text.
Press <Ctrl> + <Z>.	You should hold down the Ctrl key and then press the Z key.



When a lesson tells you to click a button, an image of the relevant button will often be shown either in the page margin or within the text itself.

note

In Excel 2007/2010/2013/2016 there are a possible 16,585 columns and 1,048,476 rows. This is a great improvement on earlier versions.

If you want to read through the book as quickly as possible, you don't have to read notes.

Notes usually expand a little on the information given in the lesson text.

important

Do not click the *Delete* button at this point as to do so would erase the entire table.

Whenever something can easily go wrong, or when the subject text is particularly important, you will see the *important* sidebar.

You should always read important sidebars.

tip

Moving between tabs using the keyboard

You can also use the <Ctrl>+<PgUp> and <Ctrl>+<PgDn> keyboard shortcuts to cycle through all of the tabs in your workbook.

Tips add to the lesson text by showing you shortcuts or time-saving techniques relevant to the lesson.

The bold text at the top of the tip box enables you to establish whether the tip is appropriate to your needs without reading all the text.

In this example, you may not be interested in keyboard shortcuts so do not need to read further.

anecdote

I ran an Excel course for a small company in London a couple of years ago...

Sometimes I add an anecdote gathered over the years from my Excel classes or from other areas of life.

If you simply want to learn Excel as quickly as possible you can ignore my anecdotes.

trivia

The feature that Excel uses to help you out with function calls first made an appearance in Visual Basic 5 back in 1996 ...

Sometimes I indulge myself by adding a little piece of trivia in the context of the skill being taught.

Just like my anecdotes you can ignore these if you want to. They won't help you to learn Excel any better!

The World's Fastest Cars

When there is a sample file (or files) to accompany a lesson, the file name will be shown in a folder icon. You can download the sample file from: <http://ExcelCentral.com>. Detailed instructions are given in: *Lesson 1-5: Download the sample files and open/navigate a workbook.*

How to use this book

This book utilizes some of the tried and tested techniques developed after teaching vast numbers of people to learn Excel during many years teaching *Smart Method* classroom courses.

In order to master Excel as quickly and efficiently as possible you should use the recommended learning method described below. If you do this there is absolutely no doubt that you **will** master Excel.

Complete the course from beginning to end

It is always tempting to jump around the course completing lessons in a haphazard way.

We strongly suggest that you start at the beginning and complete the lessons sequentially.

That's because each lesson builds upon skills learned in the previous lessons and one of our goals is not to waste your time by teaching the same skill twice. If you miss a skill by skipping a lesson you'll find the later lessons more difficult, or even impossible to follow. This, in turn, may demoralize you and make you abandon the course.

Because of the unique presentational style, you'll hardly waste any time reading about things that you already know and even the most advanced Excel user will find some nugget of extremely useful information in every lesson.

Don't waste your time reading about techniques you already understand (or have no interest in)

Here's a lesson step:

note

You can also use the <Ctrl>+<S> keyboard shortcut to save your work.

1 Save the workbook.

When you are editing a workbook the changes you make are only held in the computer's memory. If there is a power cut or your computer crashes, you will lose any work that has been done since the last save. For this reason, you should get into the habit of regularly saving your work.

Click the *Save button* on the *Quick Access Toolbar* at the top left of the screen.

If you already know how to save a workbook, read only the line: *Save the workbook* and just do it. Don't waste your time reading anything else. Read the smaller print only when you don't already know how to do something.

If you're in a hurry to learn only the essentials, as fast as possible, don't bother with the sidebars either unless they are labeled **important**. Read the sidebars only when you want to know everything and have the time and interest. You can see an example of this above. Clicking the *Save button* is the easiest, fastest and most intuitive method to save a file. You don't *need* to know the information in the sidebar (unless you are interested in it).

If possible, complete a session in one sitting

The Basic Skills course consists of two sessions (each containing a number of lessons).

You'll learn better if you lock yourself away, switch off your telephone, and complete a full session, without interruption, except for a 15 minute break each hour. The memory process is associative and we've ensured that the lessons in each session are very closely coupled (contextually) with the others. By learning the whole

session in one sitting, you'll store all of that information in the same part of your memory and will find it easier to recall later.

The experience of being able to remember all of the words of a song as soon as somebody has got you "started" with the first line is an example of the memory's associative system of data storage.

Rest at least once every hour

In our classroom courses we have often observed a phenomenon that we call "running into a wall". This happens when a student becomes overloaded with new information to the point that they can no longer follow even the simplest instruction. If you find this happening to you, you've studied for too long without a rest.

You should take a 15 minute break every hour (or more often if you begin to feel overwhelmed) and spend it relaxing rather than catching up with your e-mails and text messages. Ideally you should relax by lying down and closing your eyes. This allows your brain to use all of its processing power to efficiently store and index the skills you've learned. We've found that this hugely improves retention of the skills learned.

At the end of each session, complete the session exercise

Keep attempting the exercise at the end of each session until you can complete it without having to refer back to lessons in the session. Don't start the next session until you can complete the exercise from memory.

At the end of each session, review the objectives

The session objectives are stated at the beginning of each session.

Read each objective and ask yourself if you have truly mastered each skill. If you are not sure about any of the skills listed, revise the relevant lesson(s) before moving on to the next session.

You will find it very frustrating if you move to *Session 2* before you have truly mastered the skills covered in *Session 1*. This may demoralize you and make you abandon the course.

How to best use the incremental sample files

Many lessons in this course use a sample file that is incrementally improved during each lesson. At the end of each lesson an interim version is always saved. For example, a sample file called *Sales-1* may provide the starting point to a sequence of three lessons. After each lesson, interim versions called *Sales-2*, *Sales-3* and *Sales-4* are saved by the student.

A complete set of sample files (including all incremental versions) are provided in the sample file set. This provides two important benefits:

- If you have difficulty with a lesson it is useful to be able to study the completed workbook (at the end of the lesson) by opening the finished version of the lesson's workbook.
- When you have completed the book, you will want to use it as a reference. The sample files allow you to work through any single lesson in isolation, as the workbook's state at the beginning of each lesson is always available.

Every lesson is presented on two facing pages

Pray this day, on one side of one sheet of paper, explain how the Royal Navy is prepared to meet the coming conflict.

Winston Churchill, Letter to the Admiralty, Sep 1, 1939

Winston Churchill was well aware of the power of brevity. The discipline of condensing information onto one side of a single sheet of A4 paper resulted in the efficient transfer of information.

A tenet of our teaching method is that every lesson is presented on *two* facing sheets of A4. We've had to double Churchill's rule as they didn't have to contend with screen grabs in 1939!

If we can't teach an essential concept in two pages of A4 we know that the subject matter needs to be broken into two smaller lessons.

Tips, important information and notes appear in sidebars.

Each step is numbered and begins with the thing you need to do in bold type. Sometimes this is all you need to read to accomplish the task.

Step notes sometimes provide precise instructions on how to progress if the one-line description is inadequate. Notes often also include interesting information about the current task.

If you are not working through the course sequentially, a file is available on our web site that contains the starting point for every lesson. The file name you need to download is stated in the file icon at bottom left of every lesson page.

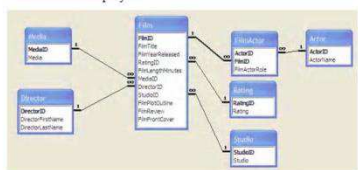
Learn Access VBA 2003 with The Smart Method

Lesson 1-1: Understand the sample database

The sample database will manage a collection of films. The schema incorporates some of The Smart Method's preferred naming conventions and design rules.

- 1 **Create a new folder for your application on the C:\ drive called C:\FilmLibrary.**
- 2 **Download the FilmLibrary-Session1.zip file from http://www.thesmartmethod.com/Access_VBA_Sample_Files save it to this location, unzip it and then re-name it FilmLibrary.mdb.**
- 3 **Open the FilmLibrary.mdb database.**
- 4 **Select Tools → Relationships from the main menu to view the schema.**

The schema is displayed.




- 5 **Understand the table relationships.**
Note the relationships between the tables. It is often useful to read the relationships to a client from the schema to ensure that they are correct. For example:
 "One film may have one and only one director but a director may direct many films." (A one to many relationship).
 "One film may have many actors and one actor may perform in many films." (A many to many relationship).
- 6 **Understand the relationship types.**
Right-click on the relationship between the Film and Director tables and choose Edit Relationship... from the shortcut menu. The Edit Relationship dialog is displayed.

tip

Some of The Smart Method's rules for table names and relationships:

- 1/ Table names are always in the singular and never in the plural.
- 2/ The primary key is always meaningful (ie autonumber data type) and is named using the syntax: <table name> + <ID>
- 3/ Foreign keys always have exactly the same name as the related Primary key (for example the primary key MediaID in the Media table is also called MediaID in the Film table).
- 5/ The link table in a many-to-many relationship is always named with the names of the tables on either side of the many to many relationship (for example the FilmActor table links the Film and Actor tables).

All of these rules (and others) are listed in *Appendix A: The Rules*.



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Learning by participation

Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand.

Confucius (551-479 BC)

Confucius would probably have agreed that the best way to teach IT skills is hands-on (actively) and not hands-off (passively). This is another of the principal tenets of The Smart Method® teaching system. Research has backed up the assertion that you will learn more material, learn more quickly, and understand more of what you learn if you learn using active, rather than passive methods.

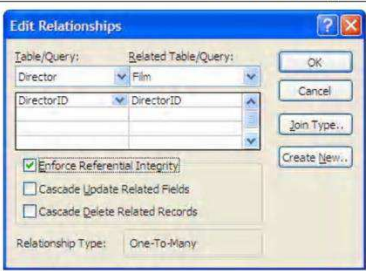
For this reason, pure theory pages are kept to an absolute minimum with most theory woven into the hands-on lessons (either within the text or in sidebars). This echoes the teaching method in Smart Method classroom courses, where snippets of pertinent theory are woven into the lessons themselves so that interest and attention is maintained by hands-on involvement, but all necessary theory is still covered.

important

Amateur database designers often leave their databases open to corruption by not enforcing referential integrity between their tables.

The usual excuse for not enforcing referential integrity is that it will stop users entering incomplete records (for example users may wish to create a Film record when the Director name is not known).

The simple solution to this problem is to make sure that the default value of the foreign key within the parent table (the DirectorID field within the Film table) is always Null (Null means the absence of any value at all). It will then be possible to create Film records when the Director is not known.

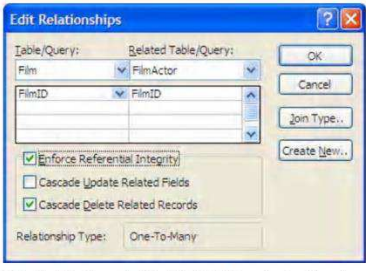


Note the *Enforce Referential Integrity* check box. This means that if a user attempts to delete a director who is attached to any films the delete will fail.

It is vitally important to enforce referential integrity for all relationships within your database. Access does not do this by default!

7 Understand when to use Cascade Delete.

Close the Edit Relationships dialog. Right-click on the relationship between the Film and FilmActor tables and choose Edit Relationship... from the shortcut menu. The Edit Relationship dialog is displayed.



Note that the *Cascade Delete Related Records* check box is checked.

This is one of the rare examples when Cascade Delete Related Records makes sense because we would want to automatically delete the association between a film and it's actors in the event that the user wanted to delete a film record.

Screen grabs are provided in-line with the text when they can explain what you need to do more clearly than words alone.

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Session One: Basic Skills

A bad beginning makes a bad ending.

Euripides, Aegaeus (484 BC - 406 BC).

Even if you are a seasoned Excel user, I urge you to take Euripides' advice and complete this session. You'll fly through it if you already know most of the skills covered.

In my classes I often teach professionals who have used Excel for over ten years and they *always* get some nugget of fantastically useful information from this session.

In this session, I teach you the absolute basics you need before you can start to do useful work with Excel 2016.

I don't assume that you have any previous exposure to Excel (in any version) so I have to include some very basic skills.

Session Objectives

By the end of this session you will be able to:

- Start Excel and open a new blank workbook
- Check that your Excel version is up to date
- Change the Office Theme
- Maximize, minimize, re-size, move and close the Excel window
- Download the sample files and open/navigate a workbook
- Save a workbook to a local file
- Understand common file formats
- Pin a workbook and understand file organization
- View, move, add, rename, delete and navigate worksheet tabs
- Use the Versions feature to recover an unsaved Draft file
- Use the Versions feature to recover an earlier version of a workbook
- Use the Ribbon
- Understand Ribbon components
- Customize the Quick Access Toolbar and preview the printout
- Use the Mini Toolbar, Key Tips and keyboard shortcuts
- Understand views
- Hide and show the Formula Bar and Ribbon
- Use the Tell Me help system
- Use other help features