

Access made easy.

# The Access Object

01

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This is one of a series of guides pertaining to the use of Microsoft Access.

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## MS Access

### Terminology

A database is a collection of data, a description of that data and the relationships between those data. That means your diary is a database, your address book, your email provider, even your filing cabinet and My Documents folders are a type of database.

A database table in Access is a list of data held as rows and columns.

A linked table is a set of data that lives outside of Access and is used within your application.

Wizards aid you in the creation of certain objects.

Designers provide a window in which to work whilst creating Access objects. For example the table designer creates tables and sets field data types whilst the relationship designer allows you define relationships between tables.

External Data is information that exists outside the Access file that you wish to use. For example Timesheets, Invoicing Accounts, currency data from a website, mailing lists in Excel.

### Access File Types

- accdb –this is an Access 2007 file format. It includes all design-time data as well as run-time data. You should use accdb files whenever possible.
- mdb - this is an Access 97 file format, legacy.
- accde, mde – these two file formats are executable only and all design-time information has been removed. This stops accidental changes to forms, reports and such and helps prevent database corruption. This is great if you have multiple users but terrible if you lose the accdb or mdb form of the file (see note).
- accdr is an extension you can change your accdb files to and execute the application as if it were “run-time”. This negates the need to compile the accdb file and strips out the design code. However, there is also no reason why a user couldn’t change the file type back to accdb; so it is, in fact, only a cosmetic alteration. These files are useful though if the user doesn’t have a copy of Access on their machine as the Access Runtime Environment can be downloaded for free.
- accdt is the Access Database Template extension.

### Note

*KEEP YOUR accdb and mdb FILES SAFE! These are your development files and you can always make accde and mde files from them. accde and mde cannot be converted back to accdb and mdb files. Once these development files are deleted you cannot change your application. So, backup development files regularly!*

## Introduction to Access

Before introducing the Access Integrated Development Environment (IDE) we'll resolve a common problem experienced by all; removing the Security Alert popups.

## Resolving the Security Alert

To create an Access database:

- Open up Access.
- Open up the Backstage View by clicking the File tab in the top left-hand corner.
- Click New.
- Enter the name of the database in the bottom right-hand corner.
- Click Create.

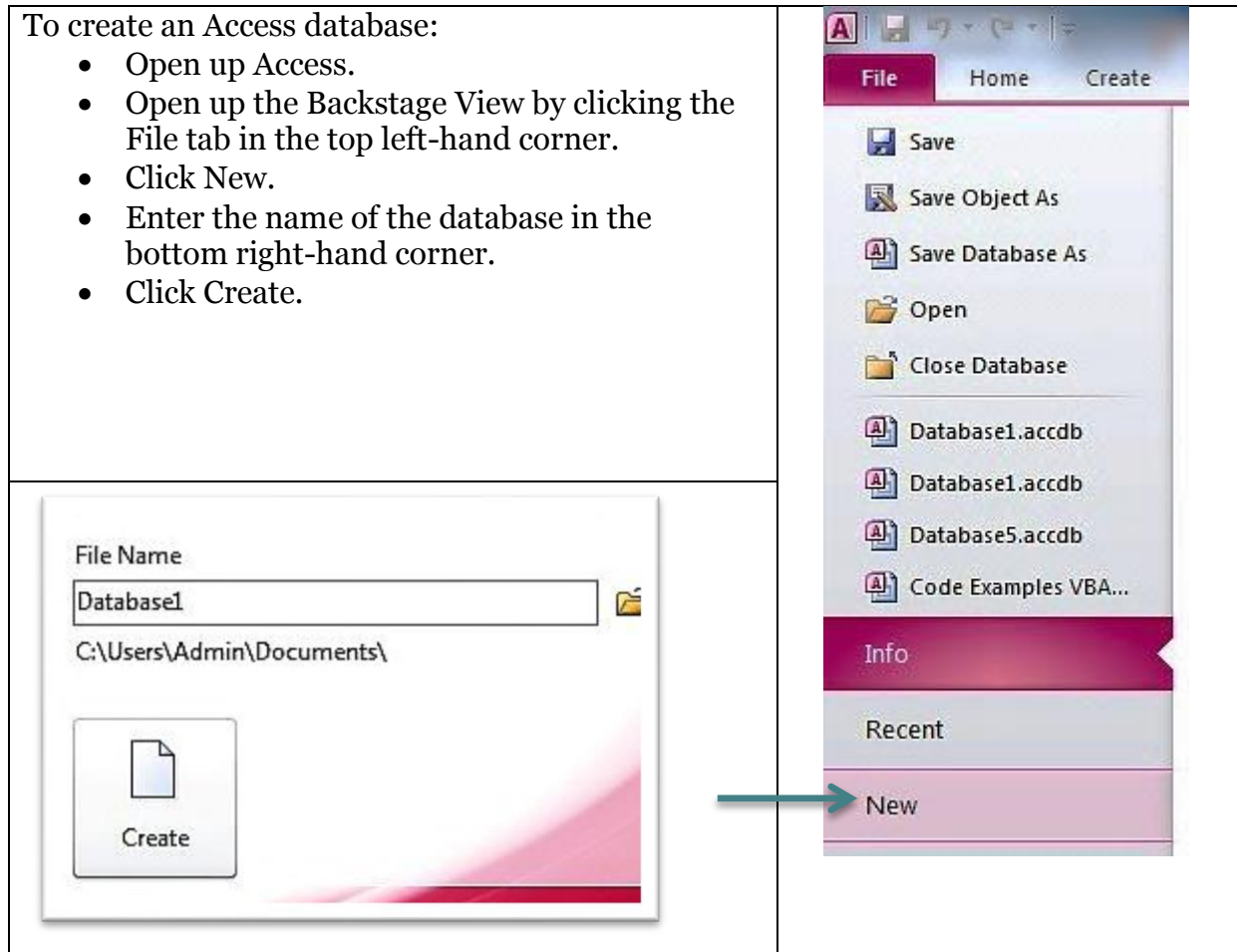


Figure 1.1

If you are opening an access database the Security Warning might display. This can happen if you open an existing database in a location where it has not been opened before. Click on Enable Content... and follow the steps below.



Figure 1.2

## The Access Integrated Development Environment (IDE)

### Exploring the Interface

Below are the key components that make up the Access Integrated Development Environment.

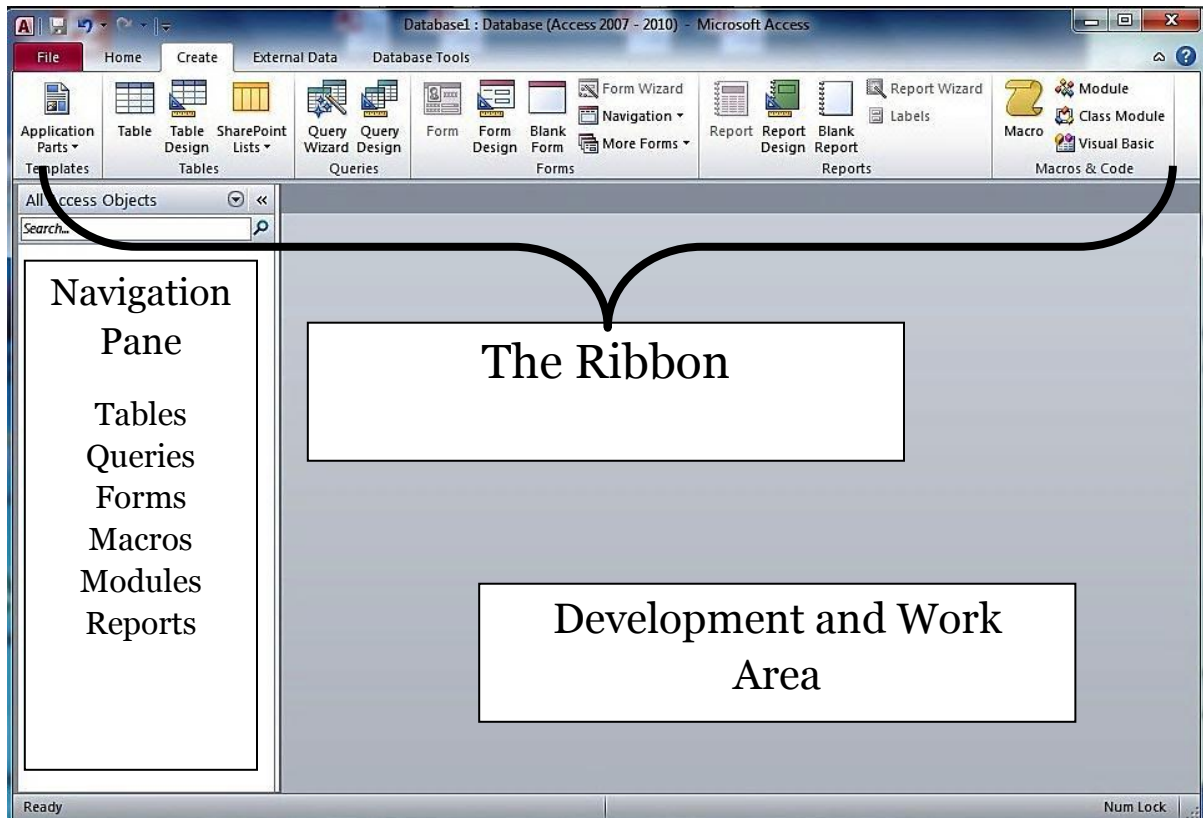


Figure 1.3

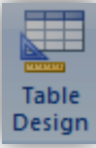

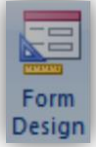

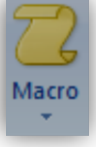

The Ribbon is where all the Creation, Formatting, Database and External Data Tools are found.

The Navigation Pane holds all your Access Objects including Tables, Queries, Forms and Reports.

The Development and Work Area will be filled with object designers and developed Tables, Queries, Forms, Reports and Macros.

## Objects in Access

The major objects that we will be learning about are:

	<p><b><u>Tables</u></b> Tables contain data that you will use in your database. Tables are really a generic term in Access to mean a “source of data” – <u>Linked Tables</u>, for instance, can actually be Excel Sheets or another database.</p>
	<p><b><u>Queries</u></b> Queries provide you with a subset of the data held in tables and enable you to update, delete and add data.</p>
	<p><b><u>Forms</u></b> Forms present data using text boxes, dropdown menus, datasheets and many other control types.</p>
	<p><b><u>Reports</u></b> These are the main outputs of any database. In reports data is grouped, sorted, summarised and aggregated to provide users with meaningful, relevant information.</p>
	<p><b><u>Macros</u></b> Macros are used to automate the application. Some of their uses include opening forms, saving records and printing reports.</p>
	<p><b><u>Relationships</u></b> The relationships editor allows you to define relationships between tables. This is one of the fundamental requirements of a Relational Database System and allows data to be normalised.</p>

Each of the buttons above, when clicked, opens either a designer window or a wizard.

## Navigation Pane

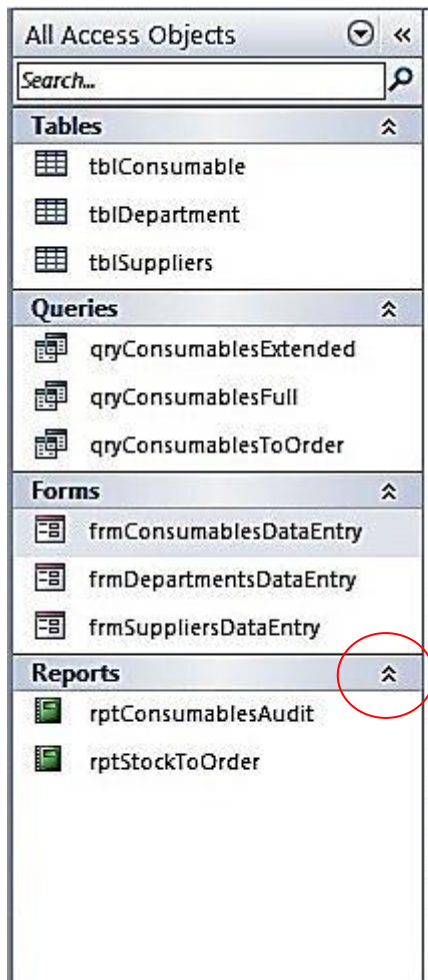


Figure 1.4

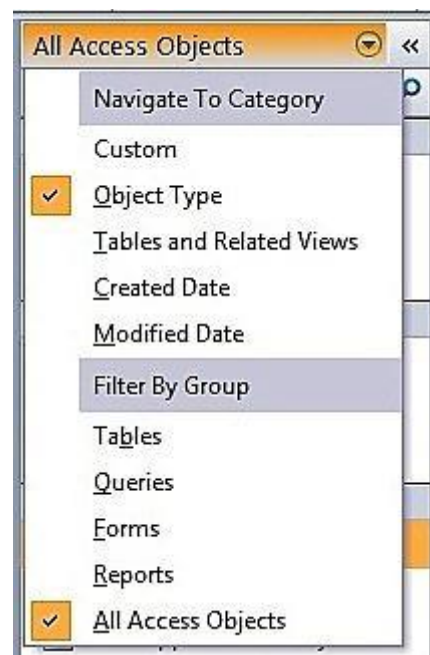


Figure 1.5

Figure 1.4 shows the navigation pane which houses all the Access Objects stored in the accdb project.

**Search** filter's the navigation pane to only display objects containing the *Search* term in their name.

The circled chevron rolls-up the sub-section (Reports in this case), hiding all Macros, Reports, Forms etc.

Figure 1.5 shows additional filter options. You can also create Custom groups and Custom links thus creating a custom navigation pane for your application.



## Naming Conventions in Action

With Access Objects it is a good idea to be concise with object names to allow yourself and other developers to easily navigate the application. For example the names below and in figure 1.4 are in simple format (3 letter prefixes are added to the objects; *frm* for Forms, *qry* for Queries, *rpt* for Reports). Using this format, all queries associated with Table Consumables are grouped together alphabetically. The same applies to Forms, Reports, Tables and Macros.

## Quick Access Toolbar

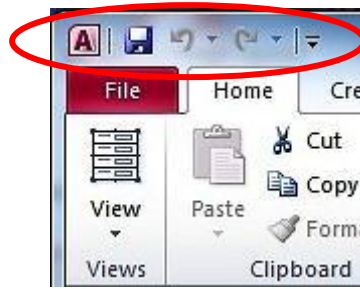


Figure 1.6

The quick access toolbar Access is very useful for inserting key custom commands.

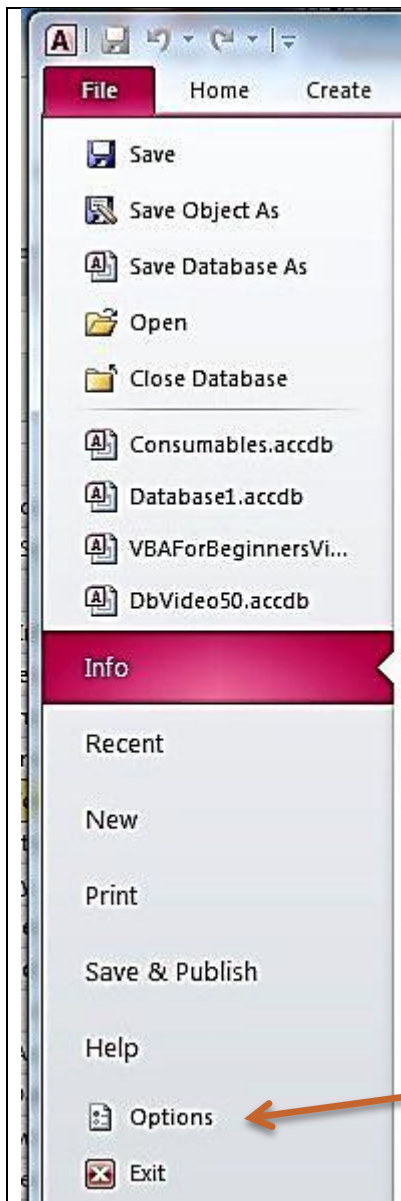


Figure 1.10

To open the editor for the Quick Access Toolbar:

- Go to the backstage view by clicking on the File tab in the top left-hand corner (Figure 1.10).
- Click on the Quick Access Toolbar button (Figure 1.11).

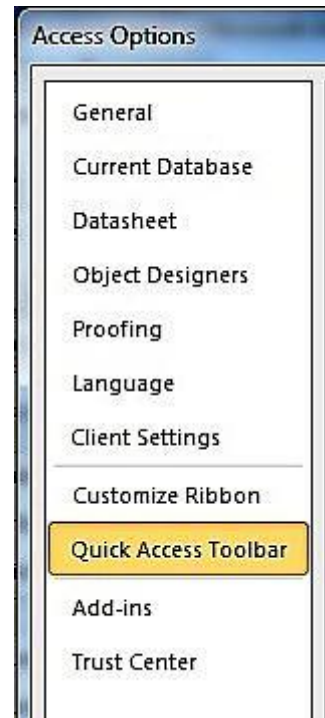


Figure 1.11

To customise the Quick Access Toolbar, click on the items in the list box as defined by the first oval (Figure 1.12) and click the Add button. These items will move from the list box in Oval 1 to the list box in Oval 2. Finally click the OK button in the bottom right-hand corner.

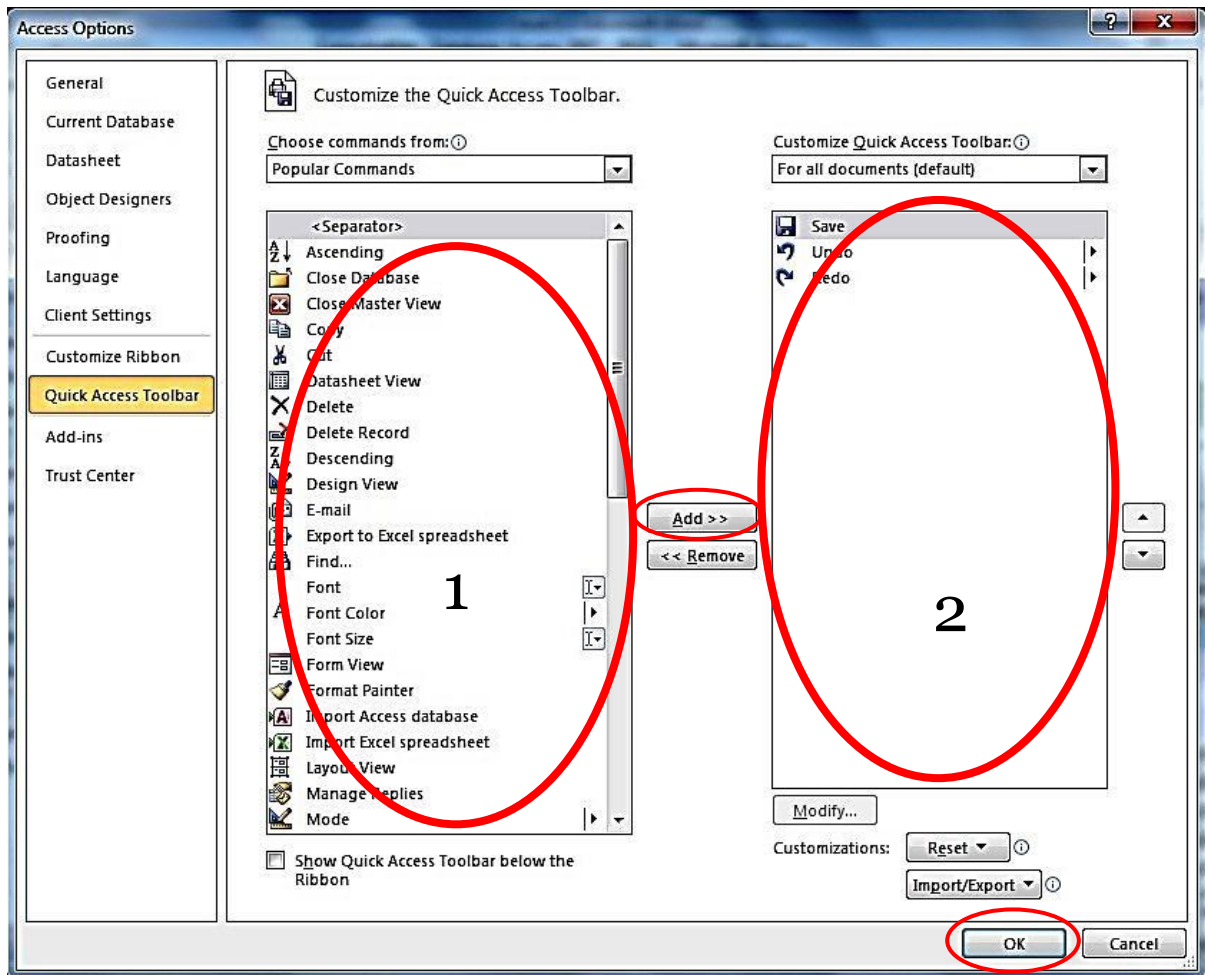


Figure 1.12

## Compressing Access Databases

Compressing accdb files is frequently required if there are multiple users or the data inside has a high *churn rate* (see below).

To compress the Access database we:

- Go to backstage view by clicking the File tab in the top left-hand corner of the application.
- Click on the Compact and Repair Database button (Figure 1.13).

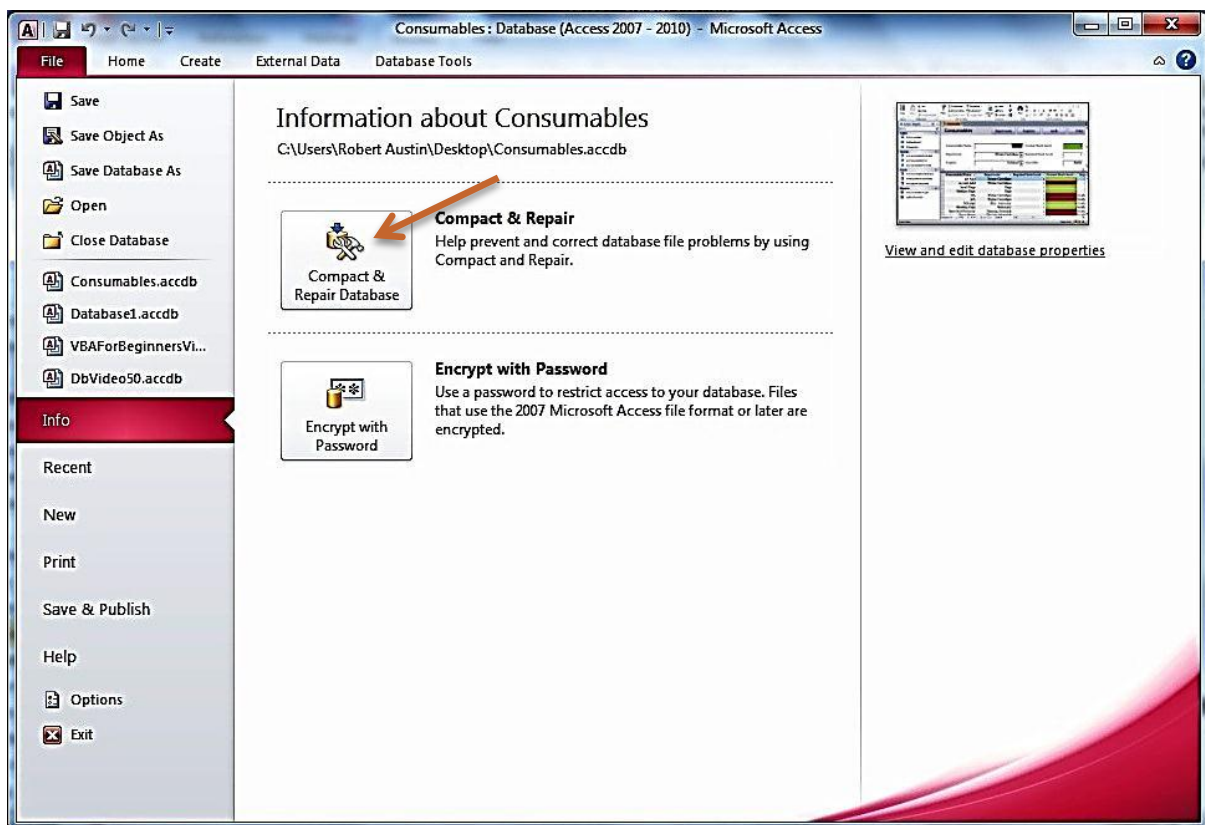


Figure 1.13

**Note:** Churn refers to the changes in data over time. A database that is constantly being updated will have a high churn rate.

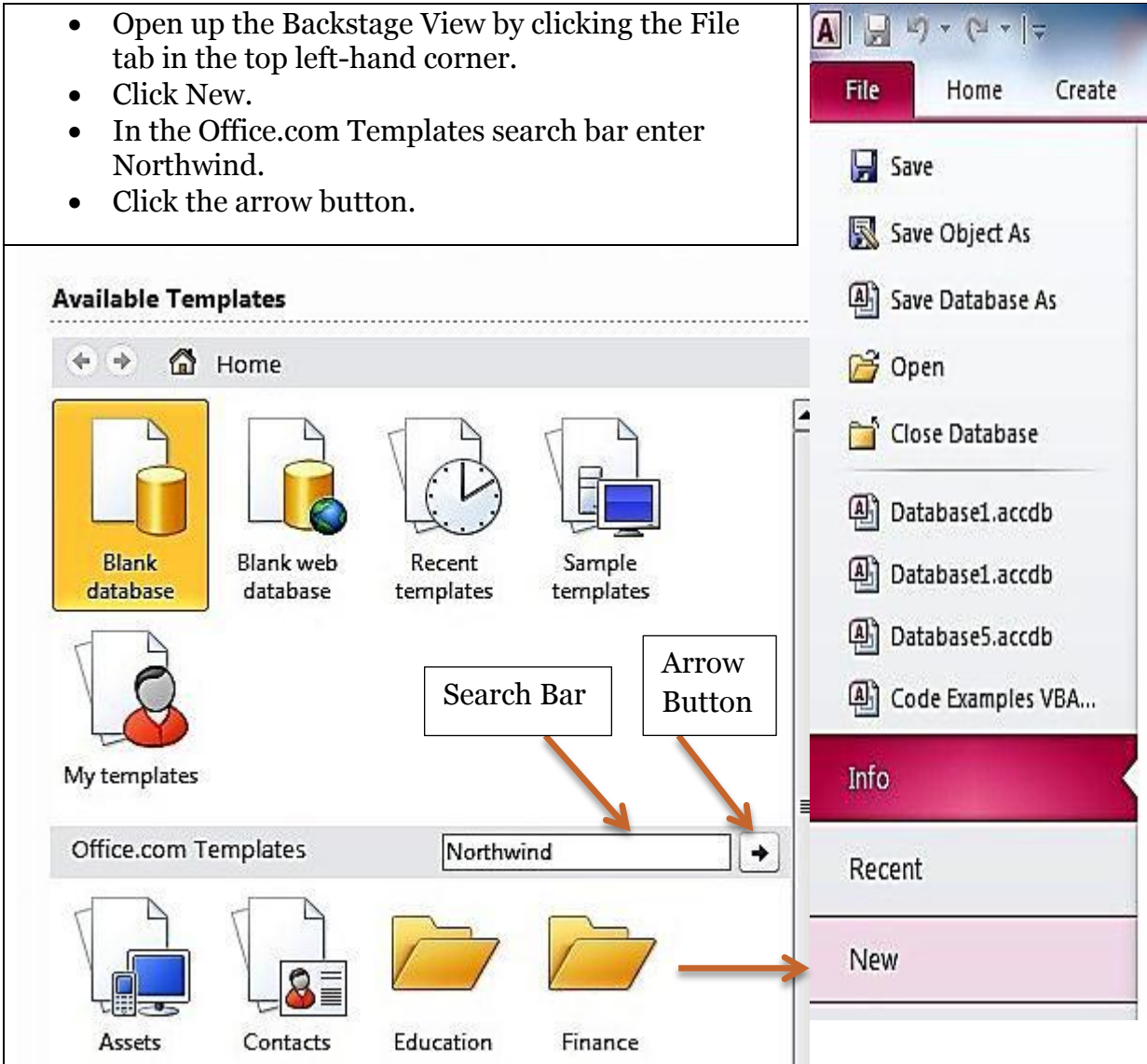
## Using Templates and Examples

Access has several templates and sample database applications available for download and install.

The purpose of these programs is to demonstrate the capabilities of Access. These are worth using as a learning tool as when you download one of the free databases you will receive a good set of tables with normalised structure and data, defined relationships, several queries, some quite advanced functional forms, reports and a substantial amount of VBA and Macro code to learn from.

To download the Northwind database:

- Open up the Backstage View by clicking the File tab in the top left-hand corner.
- Click New.
- In the Office.com Templates search bar enter Northwind.
- Click the arrow button.



The screenshot shows the Microsoft Access Backstage View. The 'File' ribbon is active, and the 'New' section is expanded. The 'Office.com Templates' search bar contains the text 'Northwind'. An arrow points from the 'Search Bar' label to the search bar, and another arrow points from the 'Arrow Button' label to the arrow button on the right of the search bar. Below the search bar, there are several template categories: 'Blank database', 'Blank web database', 'Recent templates', 'Sample templates', 'My templates', 'Assets', 'Contacts', 'Education', and 'Finance'. The 'Info' tab is selected in the ribbon, and the 'Recent' and 'New' sections are visible below it.

Figure 1.14

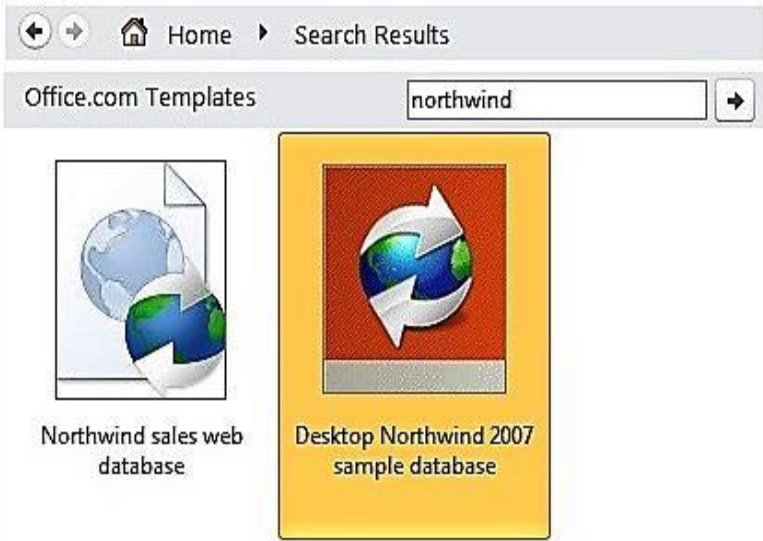
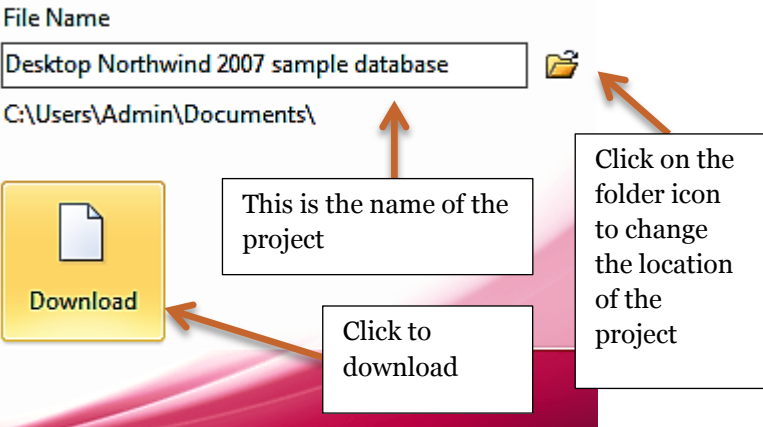
<ul style="list-style-type: none"> <li>Click on Desktop Northwind 2007 sample Database.</li> </ul>	<p><b>Available Templates</b></p> 
<ul style="list-style-type: none"> <li>Change the location of the project by clicking the folder icon.</li> <li>Change the name of the project by modifying the File Name.</li> <li>Download the project by clicking Download.</li> </ul>	

Figure 1.15

In this unit, we have covered some of the basic ideas associated with an MS Access database.