

Microsoft[®] Office Access[™] 2007 Step by Step

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Securing and Sharing Information

In this chapter, you will learn to:

- ✓ Assign a password to a database.
 - ✓ Prevent changes to database code.
 - ✓ Secure a database for distribution.
-

The need for **database security** is an unfortunate fact of life. As with your house, car, office, or briefcase, the level of security required for your database depends on the value of what you have and whether you are trying to protect it from curious eyes, accidental damage, malicious destruction, or theft.

The security of a company's business information can be critical to its survival. For example, you might not be too concerned if a person gained unauthorized access to your products list, but you would be very concerned if a competitor managed to see—or worse, steal—your customer list. And it would be a disaster if someone destroyed your critical order information.

Your goal as a database developer is to provide adequate protection without imposing unnecessary restrictions on the people who should have access to your database. The type of security required to protect a database depends to a large extent on how many people are using it and where it is stored. If your database will never be opened by more than one person at a time, you don't have to worry about the potential for corruption caused by several people trying to update the same information at the same time. If your database is sold outside of your organization as part of an application, you will want to take steps to prevent it from being misused in any way.

Tip In previous versions of Access you could set up **workgroups** and assign **permissions** to restrict the information available to members of each group and the actions they can perform. Access 2007 doesn't offer this feature.

Another way to protect a database is by securing the distribution channel; for example, by making it available from a password-protected Web site.

In this chapter, you will explore ways to protect data from accidental or intentional corruption, and ways to make it difficult for unauthorized people to gain access to private information. Then you will learn about ways of sharing databases among team members and backing up a shared database.

See Also Do you need only a quick refresher on the topics in this chapter? See the Quick Reference entries on pages xxxix–lxxv.



Important Before you can use the practice files in this chapter, you need to install them from the book's companion CD to their default location. See "Using the Book's CD" on page xxv for more information.

Troubleshooting Graphics and operating system–related instructions in this book reflect the Windows Vista user interface. If your computer is running Microsoft Windows XP and you experience trouble following the instructions as written, please refer to the "Information for Readers Running Windows XP" section at the beginning of this book.

Assigning a Password to a Database

You can prevent unauthorized users from opening a database by assigning it a *password*. Access will prompt anyone attempting to open the database to enter the password. The database will open only if the correct password is entered.

Creating a Secure Password

You can use any word or phrase as a password, but to create a *secure password*, keep the following in mind:

- Passwords are case-sensitive.
- You can include letters, accented characters, numbers, spaces, and most punctuation.

A good password includes uppercase letters, lowercase letters, and symbols or numbers, and isn't a word found in a dictionary. For more information about strong passwords, visit

www.microsoft.com/athome/security/privacy/password.mspx

A secondary benefit of assigning a password is that your database will automatically be encrypted each time you close it, and decrypted when you open it and provide the correct password.

Tip In previous versions of Access, encrypting and decrypting a database was a separate function from assigning a password to it. If you open a database created in Access 2002 or Access 2003 from Access 2007, you will still have the option of encoding or decoding it, which is what the process was called in those versions.

It is easy to assign a database password, and certainly better than providing no protection at all, in that it keeps most honest people out of the database. However, many inexpensive password recovery utilities are available, theoretically to help people recover a lost password. Anyone can buy one of these utilities and “recover” the password to your database. Also, because the same password works for all users (and nothing prevents one person from giving the password to many other people), simple password protection is most appropriate for a single-user database.

To assign a password to or remove a password from a database, you must first open the database for *exclusive use*, meaning that no one else can have the database open. This will not be a problem for the database used in the following exercise, but if you want to set or remove a password for a real database that is located on a network share, you will need to make sure nobody else is using it.

Database Encrypting

A database created in Microsoft Office Access 2007 is a *binary file*; if you open it in a word processor or a text editor, its content is mostly unreadable. However, if you look closely enough at the file, you can discover quite a bit of information. It is unlikely that enough information will be exposed to allow someone to steal anything valuable. But if you are concerned that someone might scan your database file with a utility that looks for key words that will lead them to restricted information, you can *encrypt* the file to make it really unreadable.

In previous versions of Access, the process of encoding (encrypting) a database and assigning a password were separate. In Access 2007, they have been combined as one command.

Encrypting a file prevents people who don't have a copy of Access from being able to read and perhaps make sense of the data in your file.

In this exercise, you will assign a password to a database.

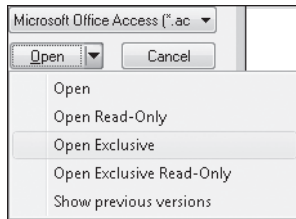


USE the *01_Password* database. This practice file is located in the *Chapter10* subfolder under *SBS_Access2007*.

BE SURE TO start Access before beginning this exercise, but don't open the *01_Password* database yet.



1. Click the **Microsoft Office Button**, and then on the menu, click **Open**.
2. In the **Open** dialog box, navigate to the *Documents\MSP\SBS_Access2007\Chapter10* folder, and click (don't double-click) the *01_Password* database. Then click the **Open** arrow, and in the list, click **Open Exclusive**.

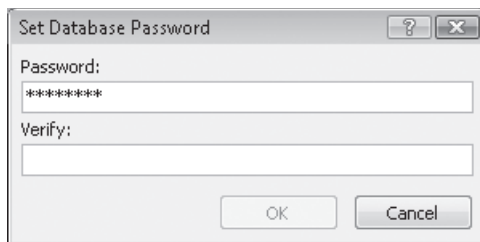


Access opens the database for your exclusive use—no one else can open the database until you close it.

3. On the **Database Tools** tab, in the **Database Tools** group, click the **Encrypt with Password** button.

The Set Database Password dialog box opens.

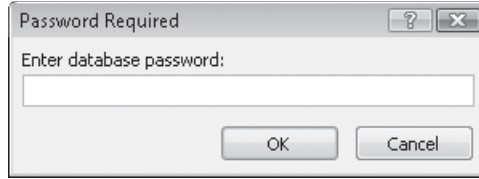
4. In the **Password** box, type **2007!SbS**, and then press the **Tab** key.



Access disguises the characters of the password as asterisks as you type them, to protect against other people seeing your password.


5. In the **Verify** box, type **2007!SbS**. Then click **OK**.
6. Close and reopen the database.

The Password Required dialog box opens.



7. In the **Enter database password** box, type **2007_SBS**, and then click **OK**.
Access warns you that the password is not valid.
8. In the **Microsoft Office Access** message box warning you that the password you entered is not valid, click **OK**.
9. In the **Password Required** dialog box, type the correct password (**2007!SbS**), and then click **OK**.

The database opens.

 **CLOSE** the *01_Password* database.

Tip To remove a password from a database, open the database exclusively, entering the password when prompted to do so. On the Database Tools tab, in the Database Tools group, click the Decrypt Database button. Enter the password, and then click OK. Access removes the password, allowing anyone to open the database.

Preventing Changes to Database Code

If you have added Microsoft Visual Basic for Applications (VBA) procedures to a database, you certainly don't want users who aren't qualified or authorized to make changes to your code. You can prevent unauthorized access in two ways: by protecting your VBA code with a password, or by saving the database as a Microsoft Database Executable (ACCDE) file. If you set a password for the code, it remains available for editing by anyone who knows the password. If you save the database as an ACCDE file, people using the database application can run your code, but they can't view or edit it.

See Also For information about saving a database as an executable file, see "Securing a Database for Distribution" later in this chapter.

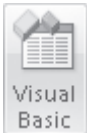
In this exercise, you will secure the VBA code in a database by assigning a password to it.



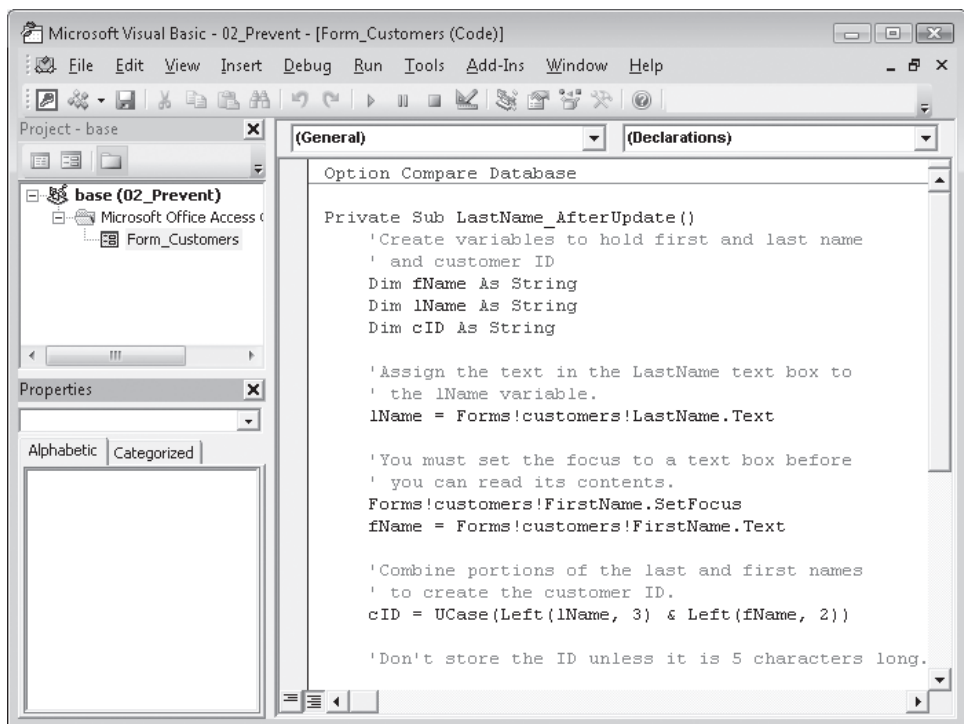
USE the *02_Prevent* database. This practice file is located in the *Chapter10* subfolder under *SBS_Access2007*.

BE SURE TO start Access before beginning this exercise.

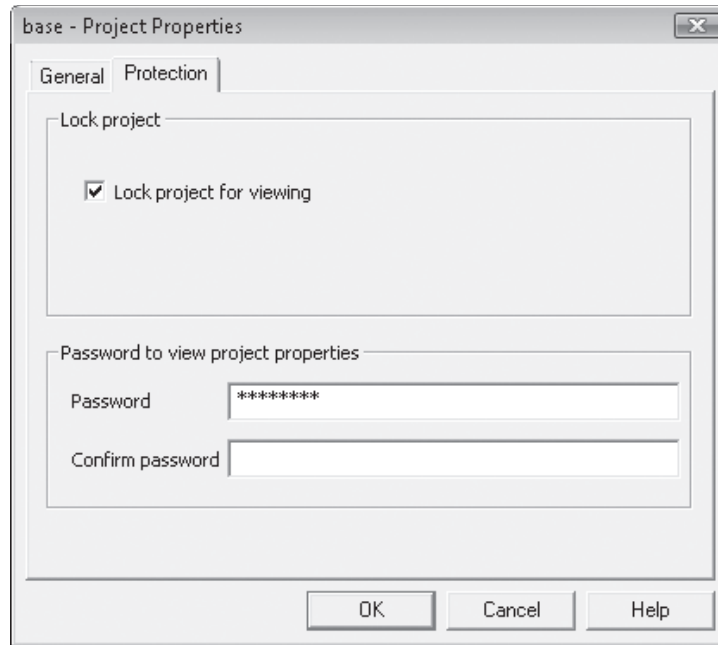
OPEN the *02_Prevent* database.



1. On the **Database Tools** tab, in the **Macro** group, click the **Visual Basic** button.
The Visual Basic Editor starts.



2. On the **Tools** menu, click **base Properties**.
The Project Properties dialog box opens.
3. On the **Protection** tab, select the **Lock project for viewing** check box.
4. In the **Password** box, type **2007!VbA**, and then press the **Tab** key.



Access disguises the characters of the password as asterisks as you type them, to protect against other people seeing your password.

Tip The Lock and Password settings operate independently. Selecting the Lock Project For Viewing check box requires the user to enter the password to view the project. If a password has been set and the Lock Project For Viewing check box is not selected, the user can view the project code but has to enter the password to open the Project Properties dialog box.

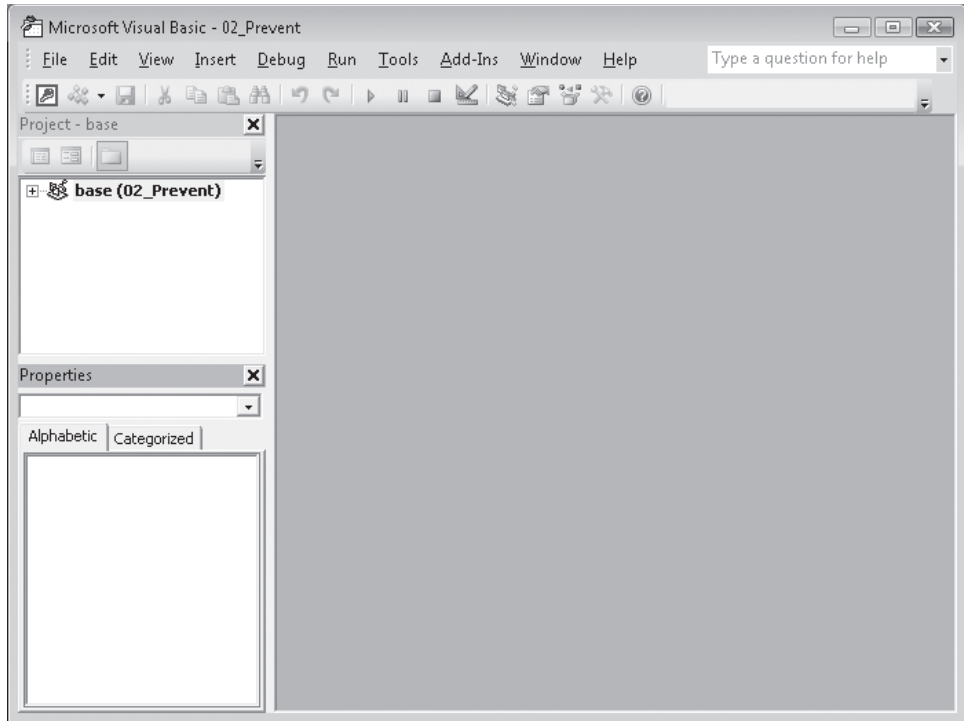
5. In the **Confirm Password** box, type **2007!VbA**, and then click **OK**.

The password is set, but you won't have to enter it again until the next time you open the database and attempt to edit the VBA code.

6. Close the Visual Basic Editor, and then close the database.

7. Reopen the database, and then on the **Database Tools** tab, in the **Macro** group, click the **Visual Basic** button (or press **Alt + F11**).

The Visual Basic Editor opens, displaying only the name of the project, and not the Code window.



8. Click the **Expand** button to the left of the *02_Prevent* database project.

The Password dialog box opens.

9. In the **Password** dialog box, type **2007!VbA**, and then click **OK**.

The project expands to display its components.

Tip You need to enter the password only once per database session. In other words, you won't have to enter it again unless you close and reopen the database.



CLOSE the *02_Prevent* database.

Tip To remove the password, on the Visual Basic Editor Tools menu, click Base Properties. On the Protection tab, clear the Lock Project For Viewing check box, delete the asterisks from the two password boxes, and then click OK.

Securing a Database for Distribution

When a database is used locally, on a local area network (LAN), or on a wide area network (WAN), you have considerable control over who has access to it. But if you send the database out into the world, on its own or as part of a larger application, you lose that control. There is no way you can know who is using the database or what tools they might have available to hack into it. If this is of concern to you, consider distributing your database as an Access Database Executable (ACCDE) file.

Tip In previous versions of Access this was called a *Microsoft Database Executable (MDE)* file. The functionality and creation process are the same. If you open an older (Access 2002 or Access 2003) MDB file in Access 2007, a Make MDE command appears in the Database Tools group on the Database Tools tab in place of the Make ACCDE command that appears when you're working in an Access 2007 database.

Suppose you want to make a database available for use by several organizations in the area, but the organizations don't want their members to be able to change the database objects and perhaps "break" things. Saving a database as an ACCDE file compiles all modules, removes all editable source code, and compacts the destination database. Users of the ACCDE file can view forms and reports, update information, and run queries, macros, and VBA code. They *cannot* do the following:

- View, edit, or create forms, reports, or modules in Design view.
- Add, delete, or change references to other objects or databases.
- Modify VBA code.
- Import or export forms, reports, or modules.

Access can save a database as an ACCDE file only if it is in Access 2007 format. Access 2002 and Access 2003 databases can be saved as MDE files.

You can't convert a database from ACCDE format to the source ACCDB format, so after saving a database as an ACCDE file, retain the original ACCDB file in a safe place. If you need to make changes to forms, reports, or VBA code, you will have to make them in the original database and then save it as an ACCDE again.

In this exercise, you will secure a database by saving it as a distributable ACCDE file.



USE the *03_Distribute* database. This practice file is located in the *Chapter10* subfolder under *SBS_Access2007*.

OPEN the *03_Distribute* database.



Make
ACCDE

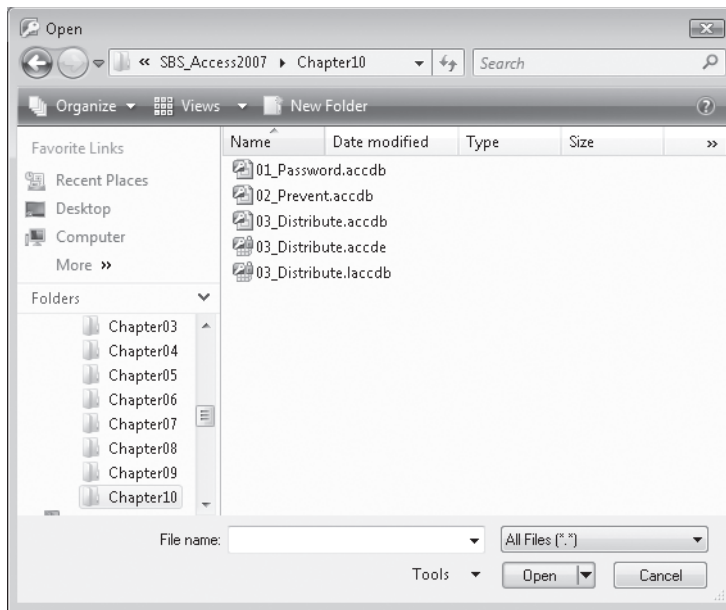


Microsoft Office
Button

1. On the **Database Tools** tab, in the **Database Tools** group, click the **Make ACCDE** button.
2. In the **Save As** dialog box, navigate to the *Documents\MSP\SBS_Access2007\Chapter10* folder, and then click **Save**.

The process takes only a moment; no message alerts you when it is completed.

3. Click the **Microsoft Office Button**, and then click **Open**.
4. In the **Open** dialog box, navigate to the *Documents\MSP\SBS_Access2007\Chapter10* folder.



Access has created a database executable file named *03_Distribute.accde*. The file icon displays a blue lock over the standard Access icon.

Tip The *03_Distribute.laccdb* file indicates that your database is locked, because it is currently open. When you close the database, the *.laccdb* file will disappear.

5. Double-click the *03_Distribute* database executable file, and if the **Microsoft Office Access Security Notice** message box appears, click **Open**.

6. In the **Navigation Pane**, right-click one object of each type (table, query, and so on), and note whether the **Design View** button on the shortcut menu is active.

The Design View button is available for tables, queries, and macros, but unavailable for all other object types. This prevents you or another user from making any design changes to forms or reports, or changing any VBA code associated with the database.



CLOSE the *03_Distribute* database.

Important When creating an ACCDE file from a database with multiple users, first make sure that all other users close the database. You will know that someone else has the database open if you locate it in Windows Explorer and see a file of the same name, with an *.laccdb* (locked Access database) extension. If you open the database anyway, when you attempt to create the accde file you will be warned that the database is already opened by someone else (the username and machine name are provided) and told to try again later.

Collaborating Through SharePoint

If your organization has a Microsoft Office SharePoint Server 2007 collaboration site, you can manage data collection and distribution through that site, by making your Access database available online, in one of these ways:

- Migrate a database to a collaboration site. The Move To SharePoint Site wizard creates SharePoint lists linked to your database. The linked data can be accessed and managed from the collaboration site or from Access.
- Publish a database to a collaboration site. You can publish your database to a SharePoint library, and provide forms, queries, and reports through which other people can update or extract information.

After you make the database available to collaboration site users, they can work with the information as they would with any other SharePoint list content—online or offline—but they can also view the content as it would appear in Access, without first starting the program.

One benefit of sharing a database in this way is that permissions are regulated by SharePoint rather than set for the individual database. Another is that you can track changes made to the data by site users and recover previous versions of information, thus safeguarding against lost data in a way that you can't with Access alone.

Conversely, you can create a database from existing SharePoint lists, and integrate workflow processes with a database.

Key Points

- Your goal as a database developer is to adequately protect your database and the information it contains, without imposing unnecessary restrictions on the people who use it. The type of security required to protect a database depends on how many people are using it and where it is stored.
- You can encrypt a database, which does not prevent it from being opened and viewed in Access, but does keep people who don't have a copy of Access from reading or making sense of the data.
- You can assign a password to your database to prevent unauthorized users from opening it. The database is automatically encrypted when you assign it a password.
- If your database contains VBA procedures, you can protect your VBA code by assigning it a password, or by saving the database as an Access Database Executable (ACCDE) file. If you set a password for the code, it remains available for editing by anyone who knows the password. If you save the database as an ACCDE file, people using the file can run your code, but they can't view or edit it.
- Other members of your organization can input and extract data through a SharePoint collaboration site. By making database information available through SharePoint, you can regulate permissions, track changes, and manage versioning in ways that you can't within Access.