

Chapter 12: Protecting and Securing Your Database with the Operating System

Supplementary Notes for Windows XP Professional

From Garry Robinson's Apress book, *Real World Microsoft Access Database Protection and Security*.

Background

I wrote Chapter 12 with Windows 2000 Professional in mind to achieve a similar level of backward compatibility that the rest of the book had with previous and popular versions of Microsoft Access. In the chapter, I provided brief notes to help users find the equivalent option in Windows XP. This document extends those brief notes to illustrate how to undertake the same tasks by using Windows XP Professional 2000. The descriptions are meant to supplement the book chapter and are not meant to be a stand-alone document. In some cases, we have added figures to these notes, which are denoted with a suffix at the end of the figure name.

To that end, wherever you see >>>>, you'll have to read through the book chapter until you get to the next description mentioned in this document. In other words, that section of the chapter not included in this document.

To find out about the book, point your browser to www.apress.com and search for "Garry Robinson."

Or go to www.vb123.com/map/.

Or use a search engine to look for the ISBN: 1590591267.

Let's Get Started with Windows XP Professional

Find your way through the chapter until you get to the following section, "Proof-of-Concept Operating System Security." In this section of the chapter, Windows XP Professional does a number of things differently to the Windows 2000 demonstrations, as documented here.

Proof-of-Concept Operating System Security

Over the new few pages, I am going to illustrate how you can establish operating system security for your Access databases and associated files on computers that are running Windows XP Professional. Quite a lot of steps are involved in this exercise, and for the target audience—Access developers and DBAs who may have all levels of skills—the examples will include many graphics so that you can visualize what to do. Remember that the main purpose of these examples is to help you become familiar enough with the underlying concepts of folder permissions. Once you have grasped those concepts, you will be able to demonstrate the viability of this technique to a system (Windows server) administrator. You will also have the knowledge to test anything that they set up for you. For some of you who have small networks that do not use a Windows server computer—such as small teams of developers—you may well be able to use the concepts directly on your databases.

For these illustrations, I will use Windows XP Professional. On this computer, which I will call the peer-to-peer server, you will need to have an NTFS-formatted drive (covered later in the chapter) for this demonstration to work.

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For now, it's time to strap yourself into your chair and start working through the demonstrations.

Preparing Databases in a Protected Folder

The first stage of the exercise is preparing a folder that will hold the database files that we want to protect.

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Setting Up a Network Share

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Setting up a network share, or “simple file sharing,” as it is sometimes called, is a straightforward process. Before you start on your network share, you should ensure that you have already implemented a firewall. The built-in Internet connection firewall on Windows XP will do for starters, though you may need to research others like ZoneAlarm later. Otherwise, you will need to be very particular about the file permissions in your shared folders because you are potentially exposing your data to the real world. The steps to create a network share follow:

1. Right-click the `\data\` folder and choose Sharing and Security.
2. Enter the details for the network share (which I have called Databases), as shown in Figure 12-2. Click OK.

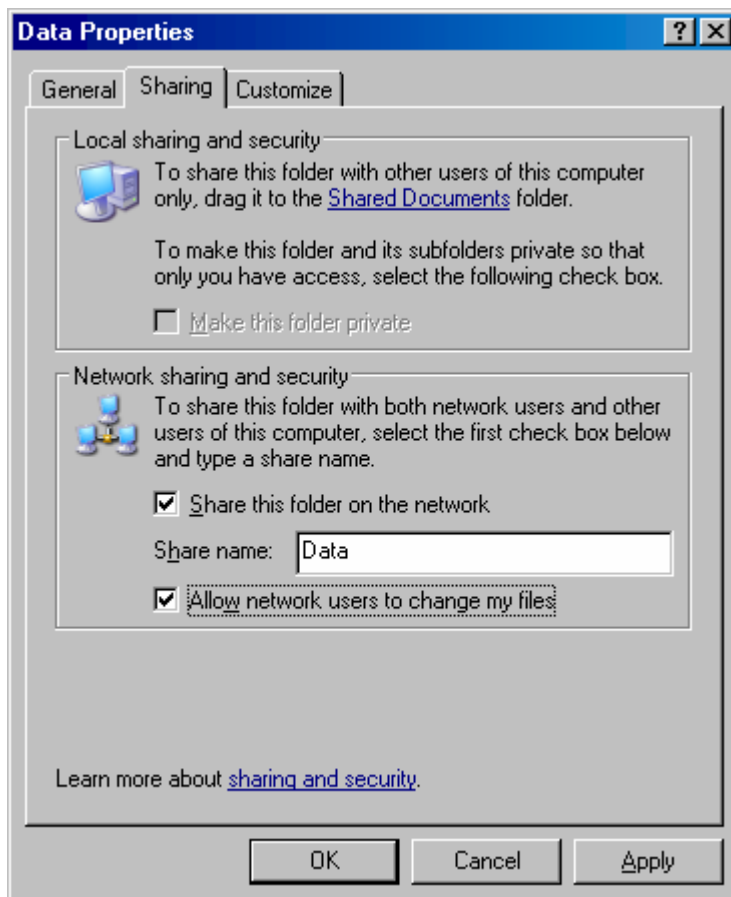


Figure 12-2. Entering the details for the network share.

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Setting Up a User Account

Now you need to set up a user account on the peer-to-peer server that will be allowed to open and edit information in the database. To set one up, follow these steps:

1. Open the Windows Control Panel by clicking the Start button and choosing Settings.
2. Double-click User Accounts.
3. In the Users and Passwords dialog, shown in Figure 12-4, click Create a New Account.

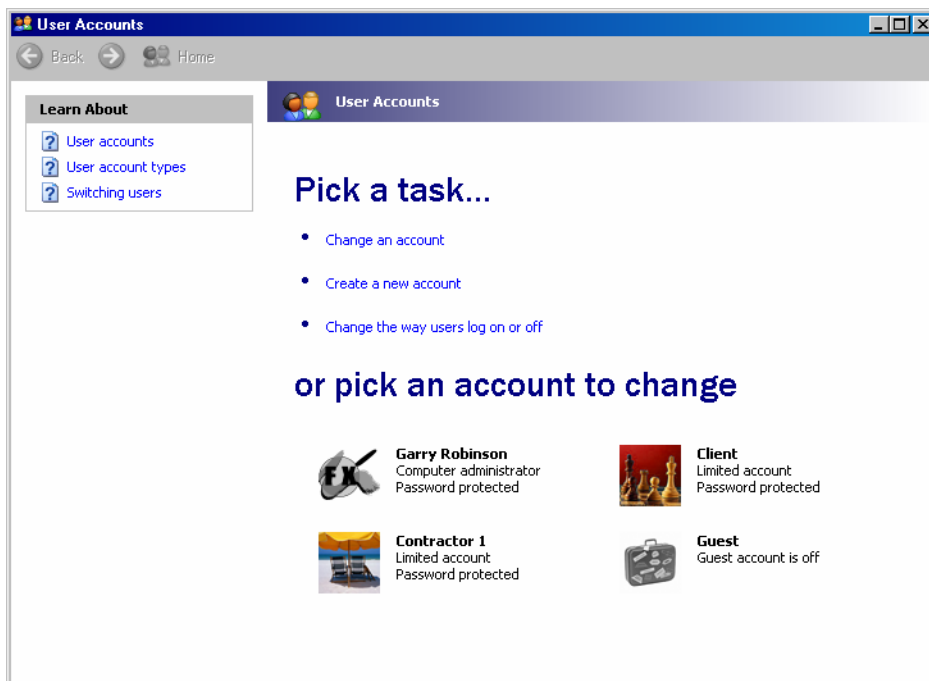


Figure 12-4. Adding new users in the Users and Passwords dialog.

4. The New Account wizard starts. Enter a name for the new account. Throughout this chapter, I will use Editor2000 as the account that is allowed to edit the database. Click Next.
5. Skip this step. Windows XP Professional does not require a password at this stage of the wizard.
6. Add the user as a Limited user (as shown in Figure 12-5), which will stop the user from installing most software, changing user accounts, and changing important folder permission. This is the level of security that we want at this stage.

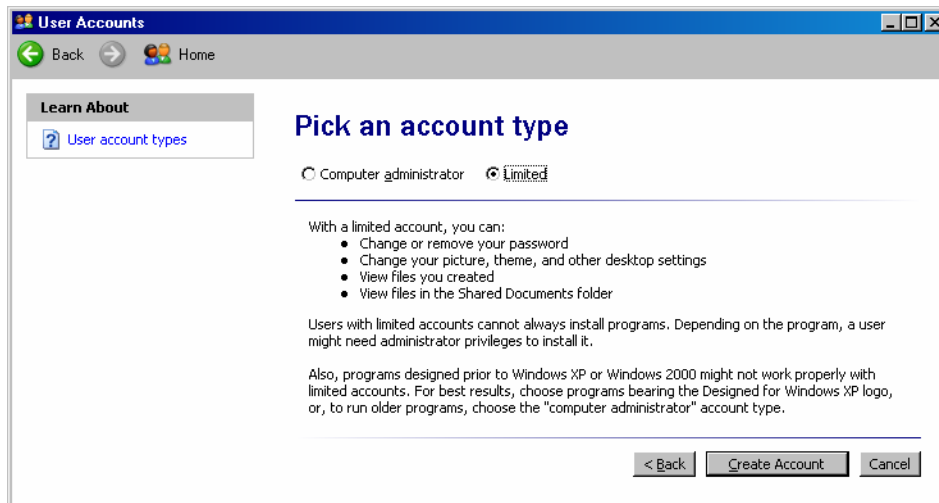


Figure 12-5. Selecting the limited user option.

7. Click Create Account. The User Accounts dialog now reappears, and you will find that the account that you just set up (Editor2000) is listed as a limited account on your computer with no password.

8. Select the Editor2000 account and select Create a Password (shown in Figure 12-6).

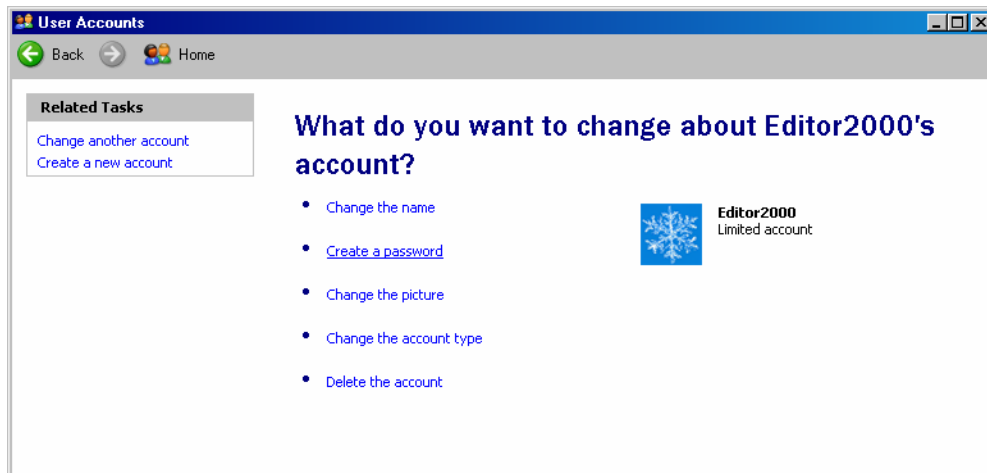


Figure 12-6. Adding a password to the account.

9. Enter and confirm the password, and enter a useful but not too exact password hint (as shown in Figure 12-6A).

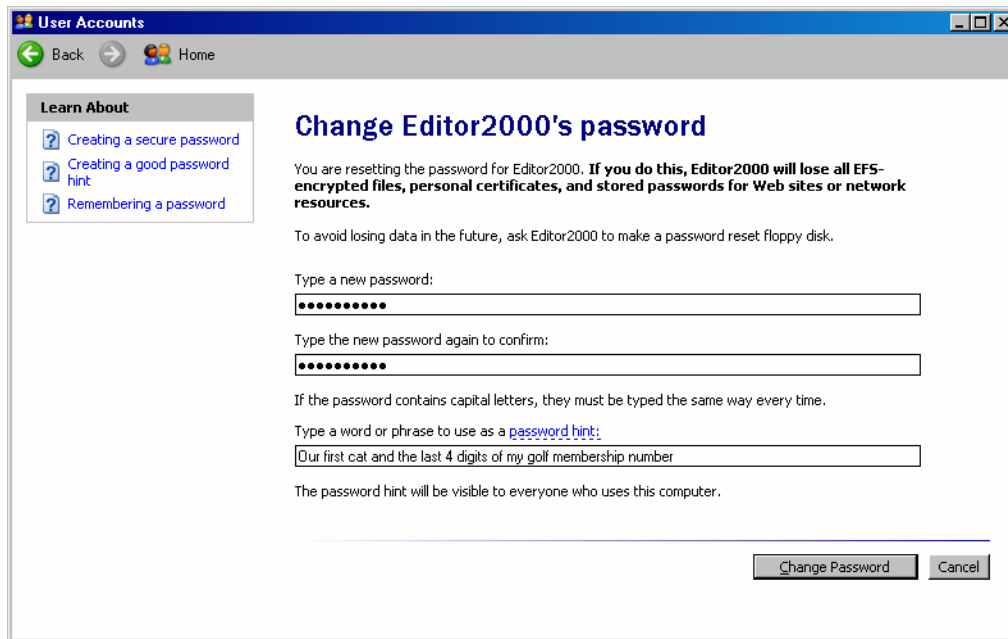


Figure 12-6A. Entering a password and password hint for the limited user account.

NOTE To see what permission groups the new account belongs to in Windows XP Professional, choose Start > Settings > Administrative Tools > Computer Management. Select Local Users and Groups under System Tools to see the Users and Groups dialog. Select Users, and a list of the users who are on your computer will appear in the right pane. If you double-click the Editor2000 account, a dialog will appear, showing more detailed information about the account. In particular, we are interested in the fact that the Editor2000 account is a member of the Users group (as shown in Figure 12-6B). You can also view which users are members of which groups by selecting Groups under Local Users and Groups.

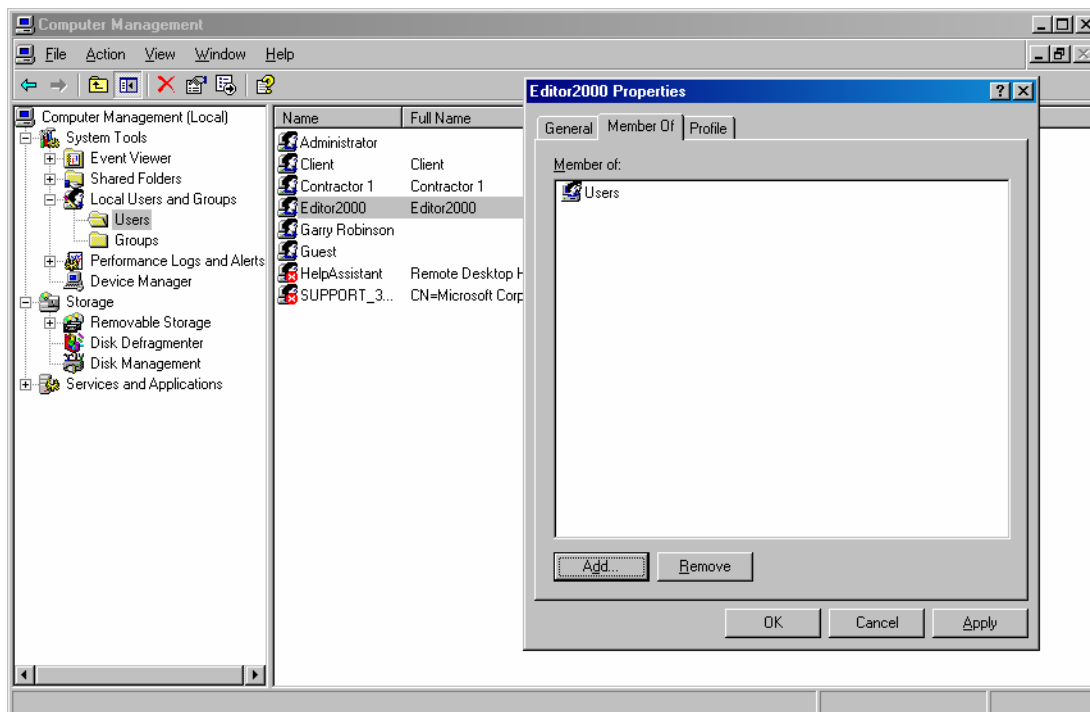


Figure 12-6B. Viewing account details from the Computer Management window.

An Alternative Way to Set Up an Account

If you are using Windows XP Professional, you may find it more convenient to head for the Computer Management window straightaway to create the account. As shown in Figure 12-6C, you can right-click Users under Local Users and Groups to create an account from there. This interface doesn't allow you to add password hints, though.

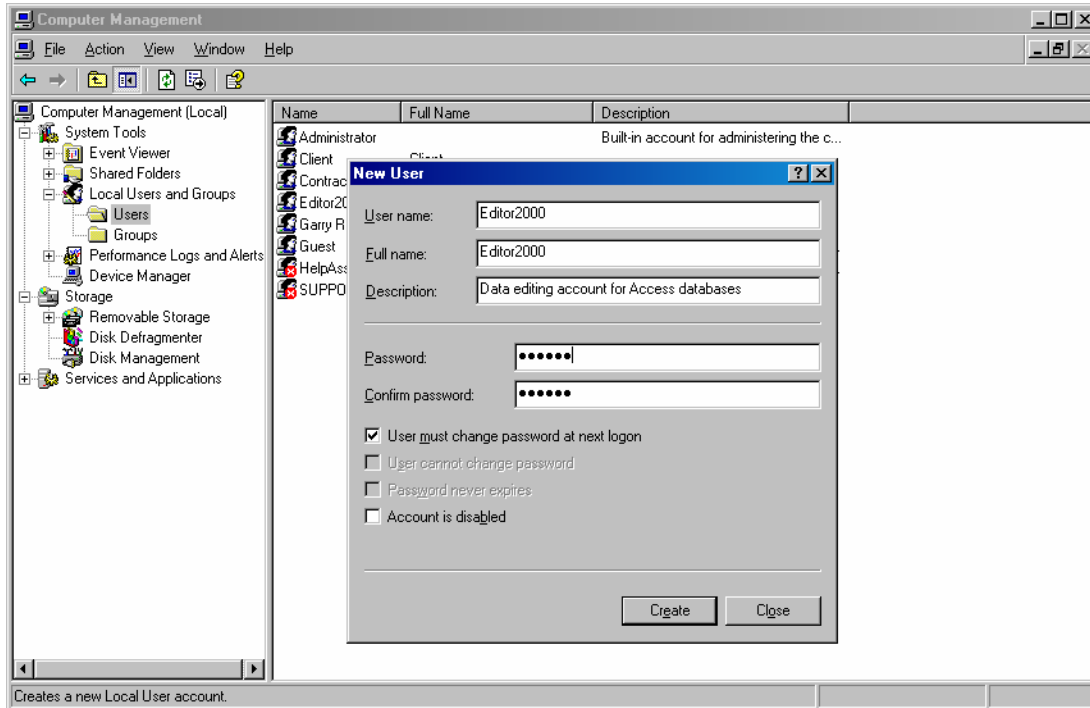


Figure 12-6C. Adding an account through the Computer Management window.

Setting Up a New Access Editors Group

Now we need to add the new account Editor2000 to a special group of users who will be allowed to edit information in the database. Because this group probably doesn't exist yet, we first need to create the User group that will hold a list of our database users' accounts. Before starting, make sure that the Computer Management window is still open. Now you are ready to create the User group, as follows:

1. Choose Start > Programs > Administrative Tools > Computer Management. Select Local Users and Groups under System Tools to see the Users and Groups dialog (as shown in Figure 12-7).

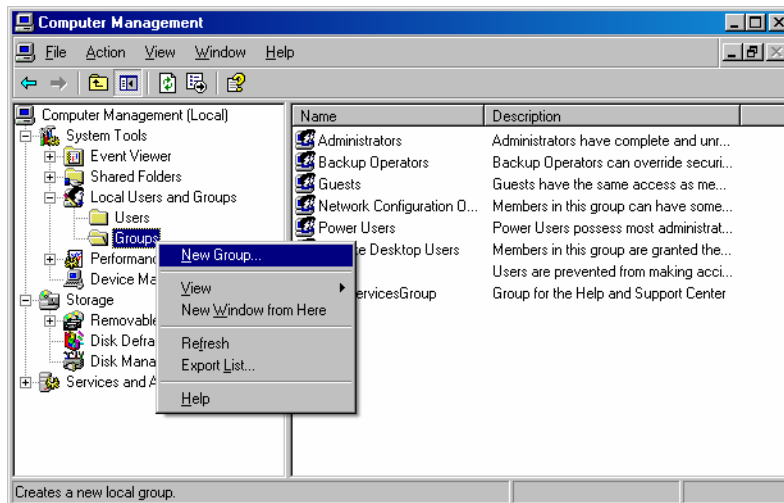


Figure 12-7. The first stage in adding a new group of users.

2. To set up a new group, right-click Groups (as shown in Figure 12-7) and choose New Group.
3. Enter the details for the new group in the New Group dialog. I will use the group name Access Editors throughout the chapter.
4. Click Create to add the group.
5. Click Close to return to the Local Users and Groups dialog (shown before in Figure 12-7).

Adding the Users to the Group

The Local Users and Groups dialog should now be visible. In the next stage, we need to add one or more users to the Access Editors group, as follows:

1. Select Groups (as shown in Figure 12-8), then select Access Editors in the list of groups.

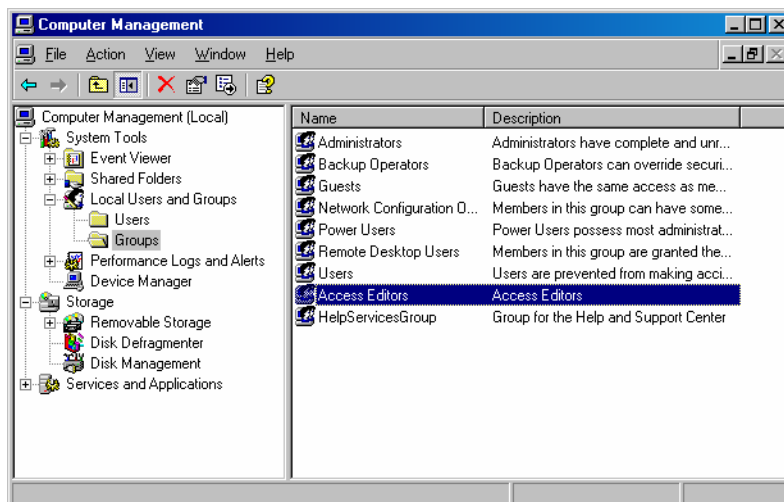


Figure 12-8. Selecting Access Editors from all the permission groups on your computer.

2. Choose Action > Properties. You can also open the Properties dialog by right-clicking Access Editors and choosing Properties.

3. Add all the users who are going to belong to the group by clicking Add on the Access Editors Properties dialog. Enter the name of the user into the Select Users dialog, as shown with the Editor2000 account in Figure 12-9. Now click the Check Names button to ensure that you've typed the name of a valid user. You can also use the Advanced button to retrieve a list of accounts.

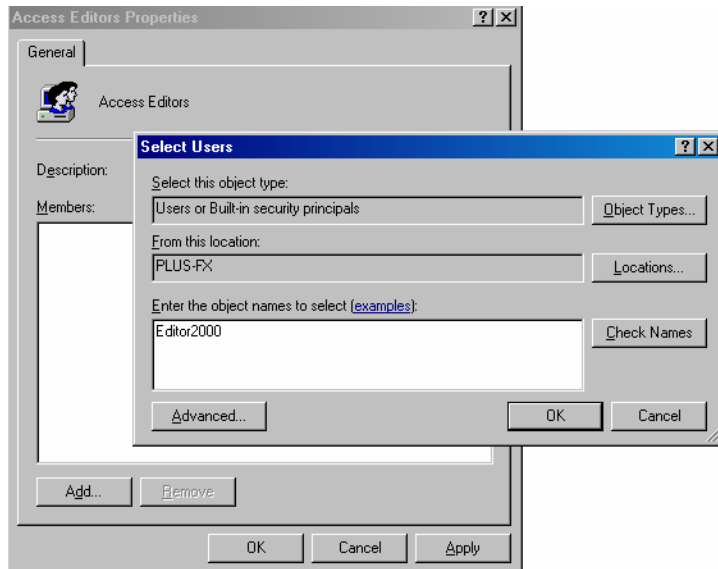


Figure 12-9. Adding a user to a permissions group.

4. Click OK when you have completed adding all the users.

You will now return to the Local Users and Groups dialog, where you can explore the properties of the Editor2000 account, as shown in Figure 12-10. As you can see, this new account is now a member of both the Users and the Access Editors group.

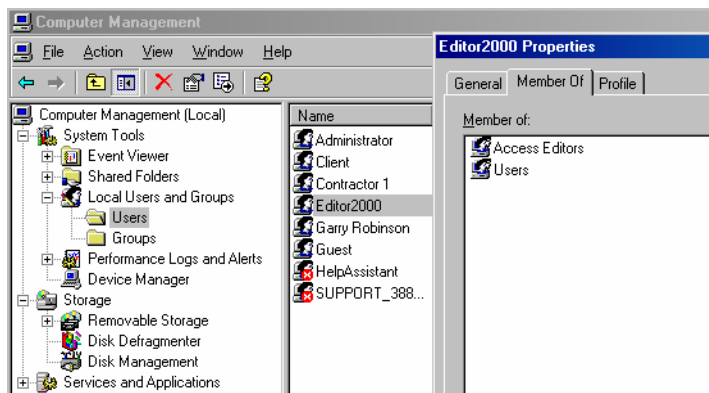


Figure 12-10. The new Editor2000 user account, which is now a member of two groups.

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Testing the New Windows Account

It is a good time now to test whether your new user account actually works and also to see what permissions it has for the network share. To do these two tasks, follow the instructions in the section, "Testing the New Windows Account."

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Setting Permissions on the Folder

Now we are finally ready to establish the permissions for the database folder so that only our Access Editors group can use the folder. To complete this process, follow these steps:

1. Log on again through the Administrator account on your peer-to-peer server.
2. Open Windows Explorer and find the Protect subfolder within the new Database network share by using the path \data\Protect\. Right-click that Protect subfolder and choose Properties.
3. Select the Security tab.

NOTE The Security tab may not appear in Windows XP Professional. To ensure that it does appear, choose Tools > Folder Options in Windows Explorer, then select the View tab. Ensure that the Use Simple File Sharing (Recommended) check box in the Advanced Settings list is cleared, as shown in Figure 12-12A.

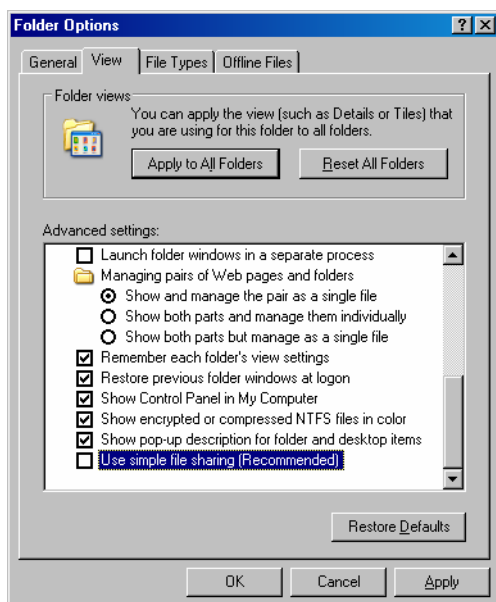


Figure 12-12A. Clearing the option to make the Security tab appear on a folder.

4. Select the Users group, as shown in Figure 12-12B.

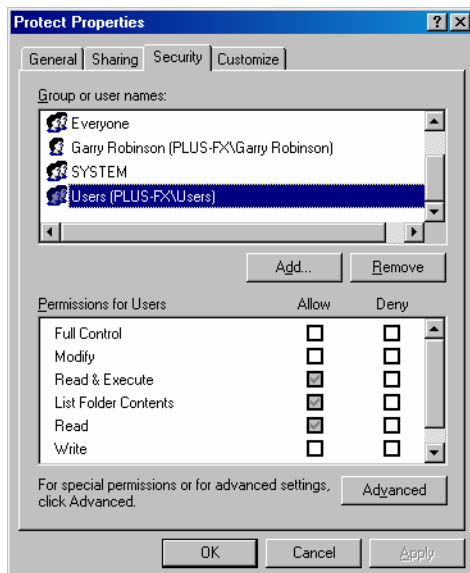


Figure 12-12B. Choosing the Users group.

5. As you can see, the Read and Execute, List Folder Contents, and Read permissions options for this folder are selected in unavailable check boxes, which means that the permissions have been inherited by this group. You will also find that you cannot clear these check boxes. To get access to these check boxes, click Advanced. Clear the Inherit from Parent check box on the Permissions tab, then click Remove in the Security dialog that follows. Finally, click OK to close the Advanced Security Settings dialog. You will see a warning, shown in Figure 12-13, that says that no one will now be able to access the folder. We're going to rectify this condition straightaway, so accept the changes.

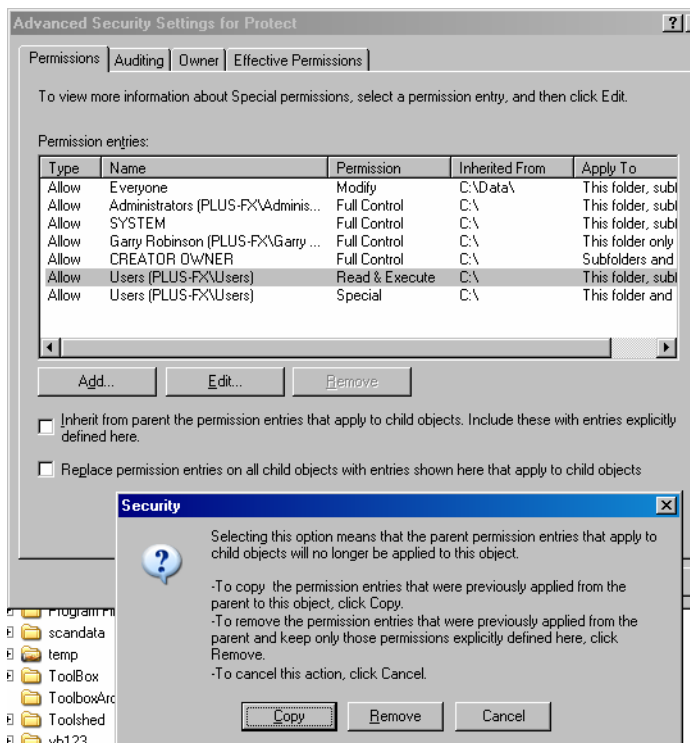


Figure 12-13. Removing inherited permissions from the Users group.

6. Now we need to add two groups to the permissions for this folder: the Administrators group for this computer and the Access Editors group that we established earlier. In Figure 12-13A, I illustrate

where to add these two groups to the permissions options by typing the names of the groups (Administrators and Access Editors) into the Object Names field, separated by a semicolon. You can then click Check Names to ensure that you entered valid user or group names.

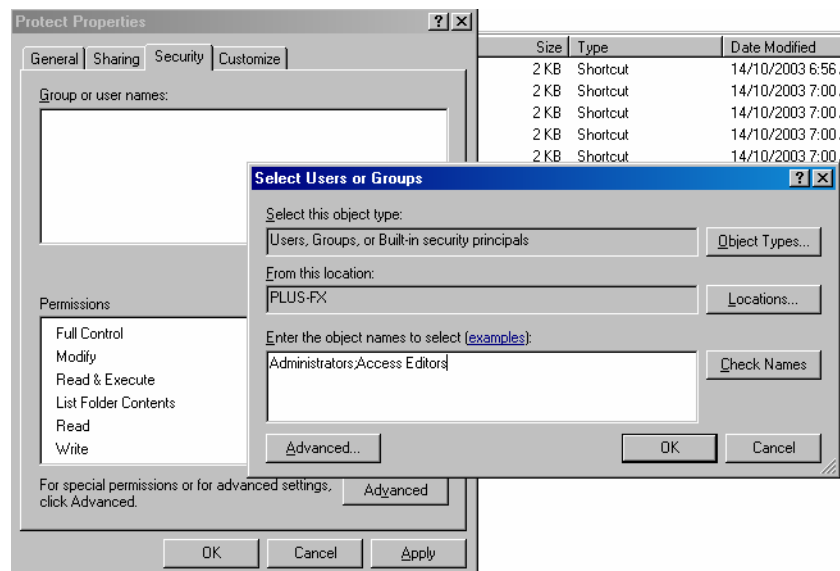


Figure 12-13A. Adding the groups manually in the Select Users or Groups dialog.

7. After you have added the second group, click OK to return to Folder Properties dialog. You should see the two groups and their permissions, as shown in Figure 12-14.

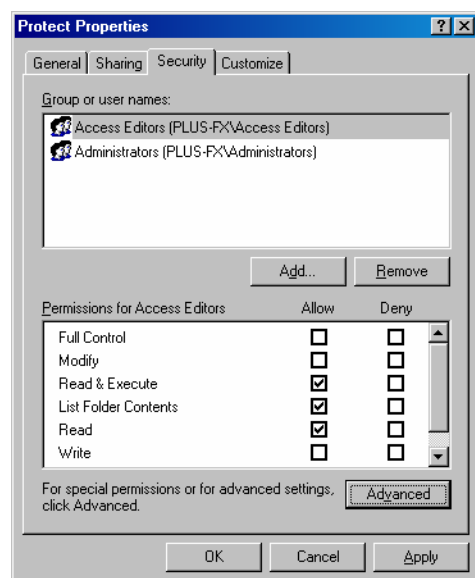


Figure 12-14. The two groups that now have permissions for this folder.

Chapter 12 goes on to explain the permissions required for each of these accounts. Look for step 8 in the section, "Setting Permissions on the Folder."

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NOTE You must log off for the folder permissions to take effect.

Testing the Permissions

Let's test that all the permissions for the `\\ComputerName\Databases\Protect\` folder have been set up correctly. To do this, you need to try out the permissions for user accounts that belong to different groups. The book shows you how to test permissions in the section, "Testing the Permissions."

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That covers the differences between Windows XP Professional and Windows 2000 Professional as far as this chapter is concerned. Where there are any other subtle differences, I documented them in the chapter.

Further Reading

If you intend to use the Microsoft Management Console, it would be a good idea to review the help guide by viewing the Local Users and Groups section of help, as shown in Figure 12-14A.

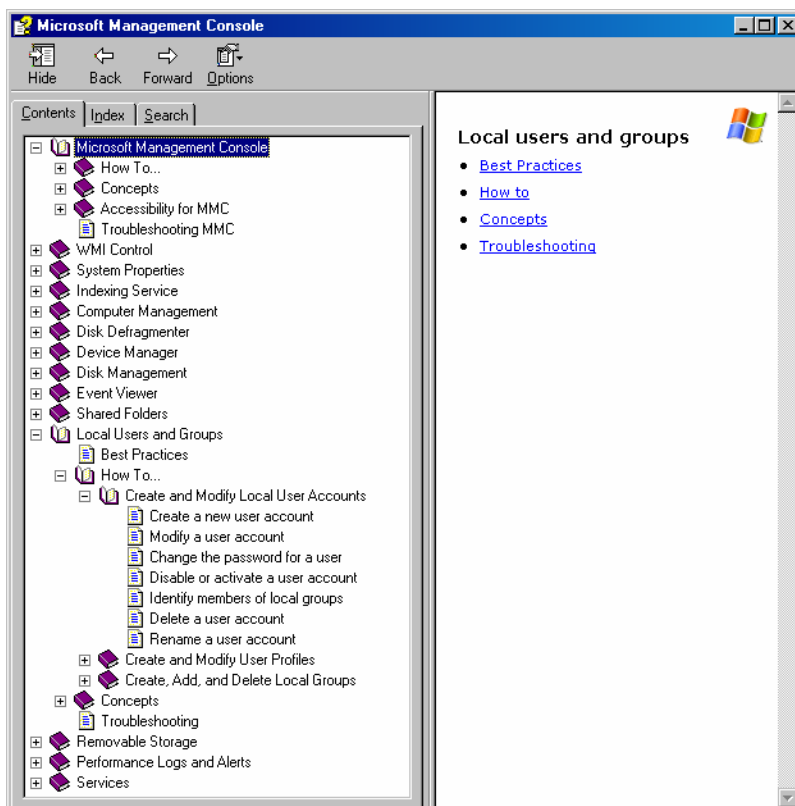


Figure 12-14A. The Microsoft Management Console local users help.

Conclusion

"Enjoy the book!" —Garry Robinson