

Module 6: Managing files and printers

Lab A: Configuring and managing permissions and shares

Exercise 1: Creating, managing, and sharing a folder

► Task 1: Create a folder structure

1. On **LON-CL1**, sign in as **Adatum\Administrator** with the password **Pa55w.rd**.
2. On the taskbar, click **File Explorer**.
3. In File Explorer, in the navigation pane, expand **This PC**, and then click **Local Disk (C:)**. In the details pane, right-click the empty space, select **New**, select **Folder**, and then type **Data** for the new folder's name.
4. In File Explorer, in the navigation pane, expand **Local Disk (C:)**, click **Data**. In the details pane, right-click the empty space, select **New**, select **Folder**, and then type **Marketing** for the new folder's name.
5. In File Explorer, in the details pane, right-click the empty space, select **New**, select **Folder**, and then type **IT** for the new folder's name.

► Task 2: Review default permissions

1. On **LON-CL1**, in File Explorer, in the navigation pane, double-click **Data** below **Local Disk (C:)**, right-click **IT**, and then select **Properties**.
2. In the **IT Properties** window, click the **Security** tab, and then click **Edit**.
3. In the **Permissions for IT** dialog box, verify that **Authenticated Users** is selected in the **Group or user names** section, and then click **Remove**. Read the text in the **Windows Security** dialog box that appears, which explains why you cannot remove an authenticated user. Click **OK**, and then click **Cancel**.
4. In the **IT Properties** window, on the **Security** tab, click **Advanced**.
5. In the **Advanced Security Settings for IT** dialog box, verify that all permissions entries are inherited from C:\. Also, verify that **Users (LON-CL1\Users)** have **Read & execute** access, while **Authenticated Users** have **Modify** access. Click **OK** twice.
6. In File Explorer, in the navigation pane, right-click **Marketing**, and then select **Properties**.
7. In the **Marketing Properties** window, click the **Security** tab, and then click **Advanced**.
8. In the **Advanced Security Settings for Marketing** dialog box, verify that all permissions entries are inherited from C:\. Also, verify that **Users (LON-CL1\Users)** have **Read & execute** access, while **Authenticated Users** have **Modify** access. Click **OK** twice.

► Task 3: Configure permissions for the IT and Marketing folders

1. On **LON-CL1**, in File Explorer, in the navigation pane, right-click the **IT** folder, select **Give access to**, and then select **Specific people**.
2. In the **Network access** dialog box, verify that **Administrator** is selected, click **Read/Write** in the **Permission Level** column, and then select **Remove**.
3. In the **Type a name and then click Add, or click the arrow to find someone** text box, type **IT**, and then click **Add**.

4. Verify that **IT** is added and selected. Click **Read** in the **Permission Level** column, select **Read/Write**, click **Share**, and then click **Done**.
5. In File Explorer, in the navigation pane, right-click **Marketing**, and then select **Properties**.
6. In the **Marketing Properties** dialog box, select the **Sharing** tab. In the **Network File and Folder Sharing** section, verify that **Marketing** is not shared, and then in the **Advanced Sharing** section, click **Advanced Sharing**.
7. In the **Advanced Sharing** dialog box, select the **Share this folder** check box. Verify that the share name is **Marketing** (the same as the folder name), and that **Limit the number of simultaneous users to** is set to **20**. Click **Permissions**.
8. In the **Permissions for Marketing** dialog box, click **Remove**. Click **Add**, in the **Enter the object names to select (examples)** box, type **Marketing**, and then click **OK**. In the **Permissions for Marketing** section, select the **Change** check box in the **Allow** column, and then click **OK** twice.
9. In the **Marketing Properties** dialog box, in the **Network File and Folder Sharing** section, verify that **Marketing** is now shared as **\LON-CL1\Marketing**, and then click **Close**.
10. Right-click the **Start** icon, and then select **Windows PowerShell**.
11. At the command prompt, view shares created on **LON-CL1** by typing **net view \\lon-cl1**, and then pressing Enter. Close the command prompt.
12. Right-click the **Start** icon, and then select **Computer Management**.
13. In Computer Management, in the navigation pane, expand **Shared Folders**, and then click **Shares**. In the details pane, verify that you see **IT** and **Marketing** shares, and the default Windows 10 shares. Close Computer Management.

► Task 4: Review configured permissions

1. On **LON-CL1**, in File Explorer, in the navigation pane, right-click **IT**, and then select **Properties**.
2. In the **IT Properties** window, click the **Security** tab, and then click **Advanced**.
3. In the **Advanced Security Settings for IT** dialog box, verify that all the permissions entries are set explicitly at this level, because their permission inheritance is set to **None**.
4. Verify that only an **Administrator**, **Administrators [LON-CL1\Administrators group]**, **SYSTEM** and **IT (ADATUM\IT)** group have access to the **IT** folder. These settings match the permissions that you configured in the **Network access** dialog box.
5. In the **Advanced Security Settings for IT** dialog box, click **OK**. In the **IT Properties** dialog box, select the **Sharing** tab, in the **Network File and Folder Sharing** section, verify that **IT** now is shared as **\Lon-cl1\it**, and then click **Advanced Sharing**.
6. In the **Advanced Sharing** dialog box, click **Permissions**. In the **Permissions for IT** dialog box, verify that the **Everyone** and **Administrators** groups have Full Control permissions to the share, click **OK** twice, and then click **Close**.



Note: If you share a folder by using the **Network access** dialog box, you will modify the local file permissions to match your configuration, while the Everyone and Administrators groups will have the Full Control share permission.

7. In File Explorer, in the navigation pane, right-click **Marketing**, and then select **Properties**.
8. In the **Marketing Properties** window, click the **Security** tab, and then click **Advanced**.

9. In the **Advanced Security Settings for Marketing** dialog box, verify that all of the permissions entries are inherited from C:\. Also verify that **Users (LON-CL1\Users)** have **Read & execute** access, while **Authenticated Users** have **Modify** access, which are the same file permissions as before you shared the **Marketing** folder. Click **OK** twice.

 **Note:** If you share a folder by using the Advanced Sharing feature, this does not modify local file permissions. You only modify share permissions if you use Advanced Sharing.

10. Right-click the **Start** icon, select **Shut down or sign out**, and then select **Sign out**.

► Task 5: Test local file permissions

1. On **LON-CL1**, sign in as **Adatum\Bill** with the password **Pa55w.rd**. Bill is a member of the Marketing group, but is not a member of the IT group.
2. On the taskbar, click **File Explorer**. In File Explorer, in the navigation pane, expand **This PC**, expand **Local Disk (C:)**, expand **Data**, and then select **Marketing**.
3. In the details pane, right-click the empty space, select **New**, select **Text Document**, and then type **File10** as the name of the file.

 **Note:** Bill has local file permissions to create a new file in the Marketing folder, because permissions were configured by using the Advanced Sharing feature. This modified only the share permissions, while the default local file permissions were not modified. By default, Authenticated Users have the Modify permission.

4. In File Explorer, in the navigation pane, select **IT**, and then click **Cancel**.

 **Note:** You will get an error, because Bill does not have local file permissions to the IT folder. Permissions were configured by Network access, and only members of the IT group have local file permissions to the folder.

5. Right-click the **Start** icon, select **Shut down or sign out**, and then select **Sign out**.
6. On **LON-CL1**, sign in as **Adatum\Beth** with the password **Pa55w.rd**. Beth is member of the IT group, and she is not member of the Marketing group.
7. On the taskbar, click **File Explorer**. In File Explorer, in the navigation pane, expand **This PC**, expand **Local Disk (C:)**, expand **Data**, and then select **Marketing**.
8. In the details pane, verify that you can see **File10** that was created by Bill. Right-click the empty space, select **New**, select **Text Document**, and then type **File20** as the name of the file.

 **Note:** Beth has local file permissions to create a new file in the Marketing folder because you configured permissions by using the Advanced Sharing feature. This modified only the share permissions, while the default local file permissions were not modified. By default, Authenticated Users have the Modify permission.

9. In File Explorer, in the navigation pane, select **IT**. In the details pane, right-click the empty space, select **New**, select **Text Document**, and then type **File21** as the name of the file.

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Note: Beth is able to create a file, because you configured permissions by using Network access. Members of the IT group have local file permissions to the IT folder.



Note: Be aware that Network File and Folder Sharing modifies file permissions and share permissions. However, the Advanced Sharing feature does not modify file permissions, and only sets share permissions.

10. Right-click the **Start** icon, select **Shut down or sign out**, and then select **Sign out**.

► Task 6: Test share permissions

1. On **LON-CL2**, sign in as **Adatum\Bill** with the password **Pa55w.rd**. Bill is a member of the Marketing group, but he is not a member of the IT group.
2. On the taskbar, click **File Explorer**. In File Explorer, click the arrow in the Address bar, type **\LON-CL1**, and then press Enter.
3. Verify that you can see the **IT** and **Marketing** shares in the details pane. Double-click **Marketing**. Verify that you can see the files that Bill and Beth created locally.
4. In the details pane, right-click the empty space, select **New**, select **Text Document**, and then type **File30** as the name of the file. Bill has permissions to create a new file in the Marketing share because he is a member of the Marketing group.
5. In File Explorer, click **LON-CL1** in the address bar. In the details pane, double-click **IT**. Read the text in the **Network Access** dialog box, and then click **Close**.



Note: Bill is not a member of the IT group, so he does not have permissions to the IT share.

6. Right-click the **Start** icon, select **Shut down or sign out**, and then select **Sign out**.
7. Sign in as **Adatum\Beth** with the password **Pa55w.rd**. Beth is a member of the IT group, but she is not a member of the Marketing group.
8. On the taskbar, click **File Explorer**. In File Explorer, click the arrow in the Address bar, type **\LON-CL1**, and then press Enter.
9. Verify that you can see the **IT** and **Marketing** shares in the details pane. Double-click **Marketing**.
10. Read the text in the **Network Access** dialog box. Beth is not a member of the Marketing group, so she does not have permissions to the Marketing share. Click **Close**.
11. In the details pane, double-click **IT**. Right-click the empty space in the details pane, select **New**, select **Text Document**, and then type **File40** as the name of the file. Beth has permissions to create a new file in the IT share because she is a member of the IT group.



Note: Users can connect only to shares that were shared for groups in which they are members, regardless of whether they were shared by Network access or Advanced Sharing.

Results: After completing this exercise, you will have created a folder structure for the Marketing and information technology (IT) departments, shared their folders, and tested local and share permissions.

Exercise 2: Using conditions to control access and effective permissions

► Task 1: Configure conditions to control access

1. On **LON-CL1**, sign in as **Adatum\Administrator** with the password **Pa55w.rd**.
2. On the taskbar, click **File Explorer**.
3. In File Explorer, in the navigation pane, expand **Local Disk (C:)**, and then click **Data**. In the details pane, right-click the empty space, select **New**, select **Folder**, and type **Research** as the new folder name.
4. Right-click **Research**, select **Properties**, select the **Sharing** tab, and then click **Advanced Sharing**.
5. In the **Advanced Sharing** dialog box, select the **Share this folder** check box, and then click **Permissions**.
6. In the **Permissions for Research** dialog box, in the **Permissions for Everyone** section, select the **Change** check box in the **Allow** column, and then click **OK** twice.
7. In the **Research Properties** dialog box, select the **Security** tab, click **Advanced**, and then verify that all permissions entries are inherited from C:\.
8. In the **Advanced Security Settings for Research** dialog box, select **Users (LON-CL1\Users)**, and then click **Remove**. Read the text in the **Windows Security** dialog box that appears, click **OK**, and then click **Disable inheritance**.
9. In the **Block Inheritance** dialog box, click **Convert inherited permissions into explicit permissions on this object**, and then verify that all permissions entries are set explicitly at this level because their permission inheritance is set to **None**.
10. In the **Advanced Security Settings for Research** dialog box, select **Users (LON-CL1\Users)**, and then click **Remove**. Entry for Users is removed from the Permission entries because it was explicitly set at this level.
11. Verify that **Authenticated Users** is selected, and then click **Edit**.
12. In the **Permission Entry for Research** dialog box, click **Add a condition**, and compose the following expression: **User department Equals Value research**. You will need to type **research** manually in the last box. Click **OK** twice, and then click **Close**.
13. In File Explorer, in the navigation pane, expand **Data**, right-click **IT**, select **Properties**, select the **Security** tab, and then click **Advanced**.
14. In the **Advanced Security Settings for IT** dialog box, select **IT (ADATUM\it)**, and then click **Edit**.
15. In the **Permission Entry for IT** dialog box, click **Add a condition**, and compose the following expression: **User Country Equals Value US**. You will need to type **US** manually in the last field. Click **OK** three times.

► Task 2: Test conditions to control access

1. On **LON-CL2**, where you are signed in as **Adatum\Beth**, in File Explorer, in the address bar, click **LON-CL1**. In the details pane, double-click **Research**. Read the text in the **Network Access** dialog box, and then click **Close**.
2. Right-click the **Start** icon, and then select **Windows PowerShell**.
3. At the Windows PowerShell prompt, view user claims by typing **whoami /claims**, and then press Enter. Review the output, and then close the Windows PowerShell prompt.



Note: Beth has a department claim value of **IT** and she cannot connect to the Research share.

4. In File Explorer, in the address bar, click **LON-CL1**. In the details pane, double-click **IT**.
5. In the details pane, right-click the empty space, select **New**, select **Text Document**, and then type **File50** as the name of the file.



Note: Beth has permissions to create a new file in the IT share because she is a member of the IT group and her Country claim has a value of **US**.

6. Right-click the **Start** icon, select **Shut down or sign out**, and then select **Sign out**.
7. Sign in as **Adatum\Nestor** with the password **Pa55w.rd**. Nestor is a member of the IT group.
8. On the taskbar, click **File Explorer**. In File Explorer, click the arrow in the Address bar, type **\LON-CL1**, and then press Enter.
9. In the details pane, double-click **IT**. Nestor is a member of the IT group, but he cannot connect to the IT share. Click **Close**.
10. Right-click the **Start** icon, and then select **Windows PowerShell**.
11. At the Windows PowerShell prompt, view user claims by typing **whoami /claims**, and then press Enter. Review the output, and then close the Windows PowerShell prompt.



Note: Nestor has a **Country** claim with the value of **GB**, so he cannot connect to the IT share, even though he is a member of the IT group.

12. Right-click the **Start** icon, select **Shut down or sign out**, and then select **Sign out**.
13. Sign in as **Adatum\Max** with the password **Pa55w.rd**.
14. Right-click the **Start** icon, and then select **Windows PowerShell**.
15. At the Windows PowerShell prompt, view user claims by typing **whoami/claims**, and then pressing Enter. Review the output, and then close the Windows PowerShell prompt.



Note: Max is in the **Research** department, and his department claim has the value of **Research**.

16. On the taskbar, click **File Explorer**. In File Explorer, click the arrow in the Address bar, type **\LON-CL1**, and then press Enter.
17. In the details pane, double-click **Research**, and then verify that Max can view the contents of the **Research** folder.
18. In the details pane, right-click the empty space, select **New**, select **Text Document**, and then type **File60** as the name of the file.



Note: Max has permissions to create a new file in the **Research** share because his department claim has a value of **Research**.

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► Task 3: View effective permissions

1. On **LON-CL1**, in File Explorer, in the navigation pane, right-click **Marketing**, select **Properties**, select the **Security** tab, click **Advanced**, and then select the **Effective Access** tab.
2. In the **Advanced Security Settings for Marketing** dialog box, click **Select a user**, in the **Enter the object name to select (examples)** box, type **Ernie**, click **OK**, and then click **View effective access**. Review the effective permissions, and then click **OK** twice.

 **Note:** As Authenticated Users have the **Modify** permission to the Marketing folder, you can see that Ernie has the most permissions allowed.

3. In File Explorer, in the navigation pane, right-click **Research**, select **Properties**, select the **Security** tab, click **Advanced**, and then select the **Effective Access** tab.
4. In the **Advanced Security Settings for Research** dialog box, click **Select a user**, in the **Enter the object name to select (examples)** text box, type **Bruno**, click **OK**, and then click **View effective access**. Bruno is a member of Development group.

 **Note:** Only users with the **department** claim with a value of **Research** have permissions to the folder, you can see that Bruno has no permissions allowed.

5. In the **Advanced Security Settings for Research** dialog box, click **Include a user claim**, select **department** in the drop-down list, type **Research** in the **Enter value here** text box, and then click **View effective access**.

 **Note:** You can see that if Bruno had the **department** user claim with the value of **Research**, he would have most permissions allowed.

6. In the **Advanced Security Settings for Research** dialog box, click **Select a user**, in the **Enter the object name to select (examples)** box, type **Arturs**, click **OK**, and then click **View effective access**. Review the effective permissions, and then click **OK** twice.

 **Note:** Because Arturs has the user claim of **department** with the value of **Research**, he has the most permissions allowed.

7. Sign out of **LON-CL1**.

Results: After completing this exercise, you will have configured and tested conditions to control access. You will have also viewed effective permissions.