Here is the **most comprehensive, sentence-by-sentence study breakdown** of the document **“106. NTFS Permissions.docx”**, fully optimized for **CompTIA A+ 220-1102** exam preparation. It includes every important detail, concept, and real-world context, crafted into structured and memorable notes.

**🧠 1. Concept Overview: NTFS Permissions vs. Shared Permissions**

Windows uses two kinds of permissions to control access to files and folders:

| **Type** | **Used When…** | **Applies To…** |
| --- | --- | --- |
| **Shared Permissions** | Accessing a folder **over the network** | **Network users** |
| **NTFS Permissions** | Accessing files **locally or via NTFS** | **Local and network users** |

* Shared permissions are **set in the Sharing tab** and apply **only when the folder is shared**.
* NTFS permissions are **set in the Security tab** and apply **even when users are local**.
* NTFS permissions offer **fine-grained control** and are based on **Access Control Lists (ACLs)**.

**📘 2. Exam Relevance (220-1102)**

This falls under:

* **Domain 1.7** – Configure Windows networking features
* **Domain 2.2** – Apply Windows security settings
* **Domain 2.4** – Manage access control and permissions

✅ You’ll need to:

* Set and troubleshoot **NTFS vs. Shared permissions**
* Understand **inheritance**
* Use **group-based permission strategies**
* Apply **least privilege principles**

**📝 3. Sentence-by-Sentence Study Notes**

**🔹 Shared vs. NTFS Permissions**

* **Shared permissions** only apply when accessing folders **over the network**.
* **NTFS permissions** apply when accessing the folder **locally** (on the same computer).
* The two sets of permissions **work together**, and **the most restrictive always wins**.

**🔹 Example: SharedFolder Setup**

* Right-click a folder > **Properties**:
  + **Sharing Tab**: Configure shared permissions for network access.
  + **Security Tab**: Configure NTFS permissions for local access.
* You might set “Everyone: Full Control” for sharing but **limit Eduardo to Read-only** via NTFS.

**🔹 Understanding NTFS Permissions (Security Tab)**

Each user or group listed has a set of **allow/deny permissions**:

| **Permission** | **What It Allows** |
| --- | --- |
| **Full Control** | Change permissions, delete files, change owners |
| **Modify** | Edit files, delete files, write new content |
| **Write** | Add new files or folders, but not modify existing ones |
| **Read & Execute** | Open files, run programs |
| **List Contents** | View folder contents but not open them |
| **Read** | Open and read files |

📌 **Example**: Eduardo has only **Read & Execute**:

* He can **open files** and **run programs**, but:
  + Can’t create or delete anything
  + Can’t change file data or folder structure

**🔹 Setting Permissions**

* Use the **Edit** button in the Security tab to:
  + Add/remove users or groups
  + Assign Allow/Deny permissions

✔️ **Changes take effect immediately** after hitting Apply.

**🔐 4. Best Practice: Use Groups Instead of Users**

👎 **Bad Practice**: Assigning permissions to individual users.

👍 **Best Practice**: Assign permissions to **security groups**.

**👥 Why Use Groups?**

* Groups simplify permission management:
  + Example groups: Instructors, Designers, HR
* Instead of editing every folder for every user, you:
  + Create a group (e.g., “Instructors”)
  + Add users (e.g., Jason, Eduardo) to that group
  + Set permissions for the group

📌 New hire? Just add them to the correct group, and they **instantly inherit the right access**.

**📁 Example Scenario**

**🔧 Group Setup:**

1. Open **Computer Management**
2. Navigate to **Local Users and Groups > Groups**
3. Create group: Instructors
4. Add Jason and Eduardo
5. Assign Instructors group to folder permissions:
   * Allow: **Read**, **Execute**, **List contents**

Now any user added to “Instructors” gets access automatically.

**🔄 5. Understanding Inheritance**

Inheritance = child folders **automatically receive permissions** from parent folders.

**📂 Example:**

* Parent folder = SharedFolder
* Subfolder = Eduardo’s Folder

If inheritance is ON:

* Subfolder gets same permissions as parent.

If you need different permissions, you must **break inheritance**.

**✂️ Breaking Inheritance:**

1. Go to **Advanced Security Settings**
2. Click **Disable Inheritance**
3. Choose:
   * **Convert** inherited to explicit
   * **Remove** all inherited permissions

Now the folder has its **own custom permissions**.

**🧪 Use Case: Private Staff Folders**

* Parent: /Staff
* Subfolders: /Staff/Susan, /Staff/Eduardo
* You want each folder to be **private and confidential**

Steps:

1. Break inheritance on each staff folder
2. Remove inherited users/groups
3. Add only the **staff member** and **admin** with full access

This prevents **sensitive HR data** from being seen by others.

**🔁 Summary Table: NTFS vs. Shared Permissions**

| **Feature** | **NTFS Permissions** | **Shared Permissions** |
| --- | --- | --- |
| Where it’s set | Security tab | Sharing tab > Permissions |
| Applies to… | Local and network users | Network users only |
| Granular control? | ✅ Yes | 🚫 Limited (Full, Change, Read) |
| Inheritance supported? | ✅ Yes | ✅ Yes |
| Priority | Most restrictive between both | Most restrictive between both |
| Group management | ✅ Recommended | ✅ Recommended |

**✅ 6. Exam Inclusion Notification**

✅ **Yes – NTFS Permissions are fully covered in the 220-1102 Exam.**

Expect questions like:

* What happens when both NTFS and share permissions exist?
* How to change permissions for a specific folder?
* Which permissions allow file deletion?
* What’s the best way to assign permissions to multiple users?

**🧠 Final Tips for the Exam**

* **NTFS is more detailed** — always check **Security tab**.
* Use **groups** not users for clean permission setups.
* Remember **inheritance** and when to break it.
* **Shared permissions** are network-only and very basic.

Would you like a printable **permissions chart**, a **permissions simulator**, or a **mini quiz** to lock this in?