

NTFS PERMISSIONS CHEAT SHEET

Basic NTFS Permissions Reference

Permission	What It Allows	Common Use Cases
Full Control	Complete access to files/folders including changing permissions	IT Administrators
Modify	Read, write, and delete files but cannot change permissions	Power users, department managers
Read & Execute	View file contents and run programs	Standard users for application folders
List Folder Contents	View file names within folders	Users who need to browse but not open files
Read	View file contents only	Users who need to view but not edit documents
Write	Create new files and folders	Users who need to save to a location

Permission Evaluation Rules

1. Explicit denies override all allows
2. Explicit permissions override inherited permissions
3. Permissions are cumulative across groups
4. Most restrictive permission applies when both share and NTFS permissions exist

Command Line Reference

Essential ICACLS Commands

```
# Display permissions
icacls "C:\path\to\folder"

# Grant permissions (R=Read, W=Write, M=Modify, F=Full)
icacls "C:\path\to\folder" /grant Domain\User:(R,W)

# Remove permissions
icacls "C:\path\to\folder" /remove Domain\User

# Reset permissions and enable inheritance
icacls "C:\path\to\folder" /reset /T

# Disable inheritance and copy permissions
icacls "C:\path\to\folder" /inheritance:r
```

PowerShell Permission Management

```
# Get permissions
Get-Acl -Path "C:\path\to\folder" | Format-List

# Grant permissions
$acl = Get-Acl -Path "C:\path\to\folder"
$rule = New-Object
System.Security.AccessControl.FileSystemAccessRule("DOMAIN\User", "Modify",
"Allow")
$acl.SetAccessRule($rule)
$acl | Set-Acl -Path "C:\path\to\folder"
```

Troubleshooting Guide

Common Permission Problems

1. Access Denied Errors

- Check for deny permissions
- Verify parent folder permissions
- Check ownership
- Test with elevated privileges






2. Permissions Not Applying to Subfolders

- Check "Replace all child object permissions" option
- Look for explicit permissions overriding inheritance
- Use icacls with /T parameter to apply recursively

3. Can't Change Permissions

- Take ownership first
- Verify you have "Change Permissions" special permission
- Try running Explorer as administrator

NTFS Permission Best Practices

-  Use groups instead of individual permissions
-  Apply principle of least privilege
-  Document your permission structure
-  Regularly audit permissions
-  Use inheritance whenever possible

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