# User Guide - Automated NAS Transfer

**Version 1.0** | Tool for copying files to NAS safely and efficiently

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## Quick Start

**What does this program do?**

Copies complete folders from your computer to the NAS (network storage) automatically.

**Requirements**

- Windows 11
- Network connection to NAS
- NAS credentials (username and password)

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## How to Use the Program

**Step 1: Preparation**

1. **Verify NAS access** (IMPORTANT - REQUIRED):
   - Open **File Explorer**
   - In the address bar type: `\\192.168.1.254`
   - Press Enter
   - **If credentials are requested, enter them and check "Remember my credentials"**
   - Verify you can see the NAS folders
   - **This step prevents the script from requesting credentials again**
2. **Configure permissions** (first time only):
   - Open PowerShell
   - Execute: `Set-ExecutionPolicy RemoteSigned -Scope CurrentUser`
   - Confirm with `Y`
3. **Locate the script**:
   - Save `NAS-Transfer-v1.0.ps1` in an easy-to-find folder
   - Example: `C:\Scripts\`

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**Step 2: Run the Program**

1. **Right-click** on the file `NAS-Transfer-v1.0.ps1`
2. Select **"Run with PowerShell"**

![Initial screen]

```
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 AUTOMATED NAS TRANSFER
 Version 1.0
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Select destination folder on NAS:

   1. Historical
   2. EDI
   3. ATO
   4. Testing
   5. Other

Enter option (1-5):
```

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**Step 3: Select NAS Destination**

**Recommended option**: Choose 1, 2, 3, or 4 for predefined folders

**Advanced option**: Choose 5 to enter a custom path - Format: \\192.168.1.254\FolderName - Example: \\192.168.1.254\Projects

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**Step 4: Select Source Folder**

`Enter SOURCE path (complete folder):`

**Valid examples**: - C:\Documents\Project2024 - D:\Backups\Important - \\OtherPC\Shared\Data

  **Tip**: You can copy the path from Windows Explorer

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**Step 5: Automatic Validations**

The program will verify:

  **Files found**: How many files were detected

```
Analyzing source files...
Files found: 1234
```

  **Possible warnings**: - Special characters in names (like <>"|?*) - Very long paths (>240 characters) - Files that might be open

**What to do?** - If warning appears → You can continue (Y) or cancel (N) - The program will attempt to copy anyway

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**Step 6: Confirm Destination**

```
Summary:
Source     : C:\Documents\Project2024
Destination: \\192.168.1.254\Testing\Project2024
Log        : C:\Logs\robocopy_20260212_143055_transfer1.txt

Start transfer?
Enter Y to continue or N to specify another destination:
```

- **Y** = Continue
- **N** = Change destination folder

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**Step 7: Existing Files (if applicable)**

If destination already has files:

```
Destination contains existing files

Transfer information:
  Total files in SOURCE: 16 files
  Total size: 67.3 MB
  Files found in DESTINATION: 50+ files

Analyze files before copying? (Y/N):
```

 **New behavior:** - **ANALYZES YOUR SOURCE FILES** (not destination files) - Shows exactly which files FROM YOUR SOURCE will be copied or skipped - More accurate prediction for strategy #1 (Replace if newer)

**If you choose Y**, the program will analyze up to 20 files from YOUR SOURCE:

```
Analyzing SOURCE files (sample of up to 20)...
Comparing with destination files for 'Replace if newer' strategy

   \nochancar1.txt [NEWER - will be copied]
   \nochancar2.txt [same date - will be skipped]
   \nochancar3.txt [same date - will be skipped]
   \BBBB_BBBB\newFile.pdf [NEW - will be copied]
   \BBBB_BBBB\modifiedFile.xlsx [NEWER - will be copied]
   \BBBB_BBBB\unchangedFile.doc [same date - will be skipped]
 ... and 10 more file(s) not shown

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PREDICTION FOR STRATEGY #1 (Replace if newer):
```

```
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   Will be copied (new or more recent): 13
   Will be skipped (same date or older): 3

   This analysis is ONLY for strategy #1
     If you choose option 2 or 3, behavior will be different
     Robocopy will process all 16 files
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```

**Legend:** - (green checkmark) = WILL COPY this file - `[NEWER]`: Your version is more recent - `[NEW]`: Does not exist in destination - (gray cross) = WILL SKIP this file - `[same date]`: Identical dates - `[older]`: Destination has newer version

**Advantages of new analysis:** 1. Shows YOUR files that will be copied 2. Identifies NEW files (that don't exist in destination) 3. More accurate prediction of what Robocopy will do 4. Easy to understand: = copy, = skip

**Then choose strategy:**

```
Select copy strategy:
(This strategy will apply to ALL files in the transfer)

   1. Replace if newer (recommended)
   2. Skip existing files
   3. Overwrite all

Select (1-3, Enter=1):
```

| Option | What it does | Parameters | When to use |
|---|---|---|---|
| **1** | Copies only NEWER files from source. Skips files with same date or older | `/XO` | Update backups, incremental sync (recommended) |
| **2** | Only copies files that DO NOT exist at destination. Skips all existing files | `/XC /XN /XO` | Add new files without touching existing ones |
| **3** | Replaces EVERYTHING including identical files. Forces complete copy | `/IS /IT` | Restore from backup, force total synchronization |

**Key summary**: - The 20-file analysis is ONLY to help you understand how it works - Real numbers will be shown at the end in the Robocopy summary -

Robocopy compares EACH file from your source against what exists in destination

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**Step 8: File Options**

```
Exclude temporary and system files?
  - Temporary files: ~$*, *.tmp, *.temp, *.bak
  - System folders: Thumbs.db, .DS_Store, desktop.ini

Exclude temporary files? (Y/N):
```

**Recommendation**: Y to exclude unnecessary files

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**Step 9: Space Verification**

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Verifying available space...
Required space: 2.5 GB
Available space: 150 GB
Sufficient space available

Timeout configured: 7.5 minutes (adjusted by size)
```

  The program automatically calculates maximum wait time

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**Step 10: Transfer in Progress**

```
Starting transfer...

Copying files... (may take several minutes)
Activity monitor:
```

```
 [Log: 5.2 KB - Active]
```

**During copy:** - You'll see updates every 30 seconds - The program verifies connection automatically - If a problem is detected, it stops to prevent errors

  **Estimated time**: Depends on size and number of files - 100 MB → ~30 seconds - 1 GB → ~3-5 minutes - 10 GB → ~30-40 minutes

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**Step 11: Automatic Validation (Silent)**

The script automatically validates the transfer result in the background:

**Silent validation:** -  Reads Robocopy log to verify copied files -  Detects and corrects incorrect exit codes automatically -  No detailed boxes displayed (goes straight to summary)

**Automatic correction:** If Robocopy returns exit code 0 but copied files (known bug), the script corrects it to exit code 1 without notifying you. Validation is completely automatic.

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**Step 12: Final Summary**

```
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 TRANSFER SUMMARY
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Dirs :        10          0        10        0        0        0
Files:        123        123        0        0        0        0
Bytes:  256.5 MB  256.5 MB        0        0        0        0


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 TRANSFER COMPLETED
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Status: Success - Files copied correctly
Log: C:\Logs\robocopy_20260212_143055_transfer1.txt

Perform another transfer? (Y/N):
```

**Options:** - **Y** = Do another transfer (without closing program) - **N** = Exit program

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## Understanding the Summary

| Column | Meaning |
|--------|---------|
| **Dirs** | Number of folders |
| **Files** | Number of files |
| **Bytes** | Total size copied |

**Possible statuses:** -  **Success**: Everything copied correctly -  **No changes**: Files were already up to date -  **Warning**: Some files don't match -  **Error**: Some files were NOT copied

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**Logs and Records**

**Log Location**

`C:\Logs\robocopy_YYYYMMDD_HHMMSS_transferN.txt`

**Example**: `robocopy_20260212_143055_transfer1.txt` - 20260212 = Date
(February 12, 2026) - `143055` = Time (14:30:55) - `transfer1` = Transfer number
in session

**What are logs for?**

- See which files were copied
- Identify specific errors
- Detailed transfer statistics
- Audit and tracking

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## Common Problems

### "ERROR: Path does not exist"

**Cause**: The folder you entered was not found
**Solution**: Verify the path is correctly written and exists

### "Could not connect to NAS"

**Cause**: Incorrect credentials or NAS unavailable
**Solution**: 1. Verify username and password 2. Confirm NAS is powered on 3.
Verify network connection

### "Files with special characters"

**Cause**: Names with `< > : " | ? *`
**Solution**: You can continue, but consider renaming those files

### "Files that may be in use"

**Cause**: Excel, Word or other programs have files open
**Solution**: Close files before copying (recommended)

### "Robocopy stuck in retry loop"

**Cause**: Connection loss or permission problem
**Solution**: The program will stop automatically after 90 seconds

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### Tips and Best Practices

**Before copying:**

1. **Close open files** in Office
2. **Verify available space** on NAS
3. **Use simple names** without special characters

**During copy:**

1. **Don't disconnect** network cable
2. **Don't turn off** computer
3. **Don't suspend** device

**After copying:**

1. **Review summary** to confirm success
2. **Verify files** on NAS if critical
3. **Check log** if there were warnings

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## Security

**Is this program safe?**

**Yes**, the program: - Does not modify original files - Only **copies** (doesn't move or delete) - Uses native Windows tools (Robocopy) - Credentials handled by Windows system - Doesn't send data to internet

**What permissions does it need?**

- **Doesn't need** administrator permissions
- Only needs NAS access (with your credentials)

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## Support

**Need help?**

**Check the log:**

`C:\Logs\robocopy_[date]_[time]_transfer[N].txt`

**Useful information to report problems:** - Exact error message - Source and destination path - Log file contents - File size and quantity —

## Glossary

| Term | Meaning |
|------|---------|
| **NAS** | Network attached storage |
| **Robocopy** | Windows tool for copying files |
| **UNC** | Network path format (`\\server\folder`) |
| **Timeout** | Maximum wait time without activity |
| **Log** | Record file with operation details |