

# Configuring Windows File System Permissions (3e)

Access Control and Identity Management, Third Edition - Lab 05

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Time on Task:

7 hours, 21 minutes

Progress:

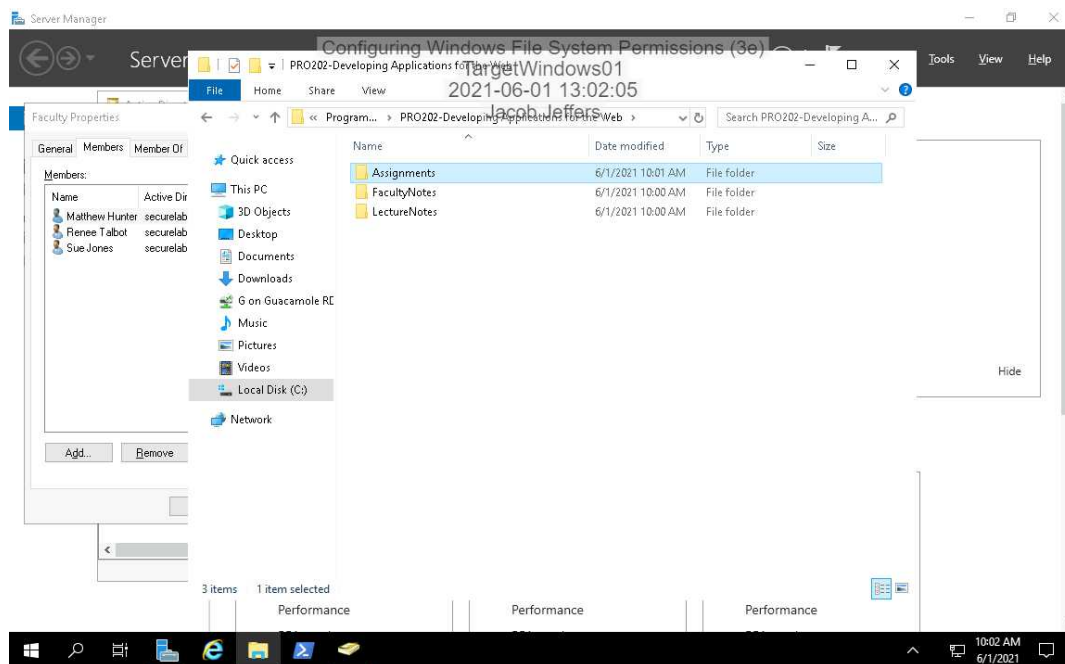
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Report Generated: Tuesday, June 1, 2021 at 3:11 PM

## Section 1: Hands-On Demonstration

### Part 1: Create the Folder Structure

9. **Make a screen capture** showing the **folder structure and file path** including the folder you created in your own name.

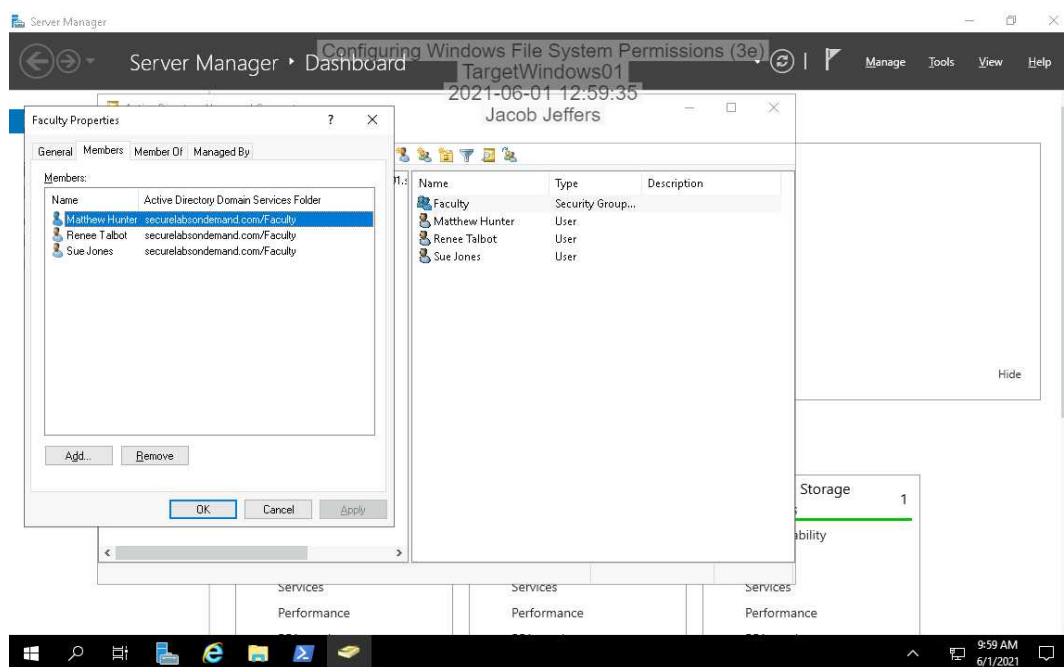


### Part 2: Create Security Groups

# Configuring Windows File System Permissions (3e)

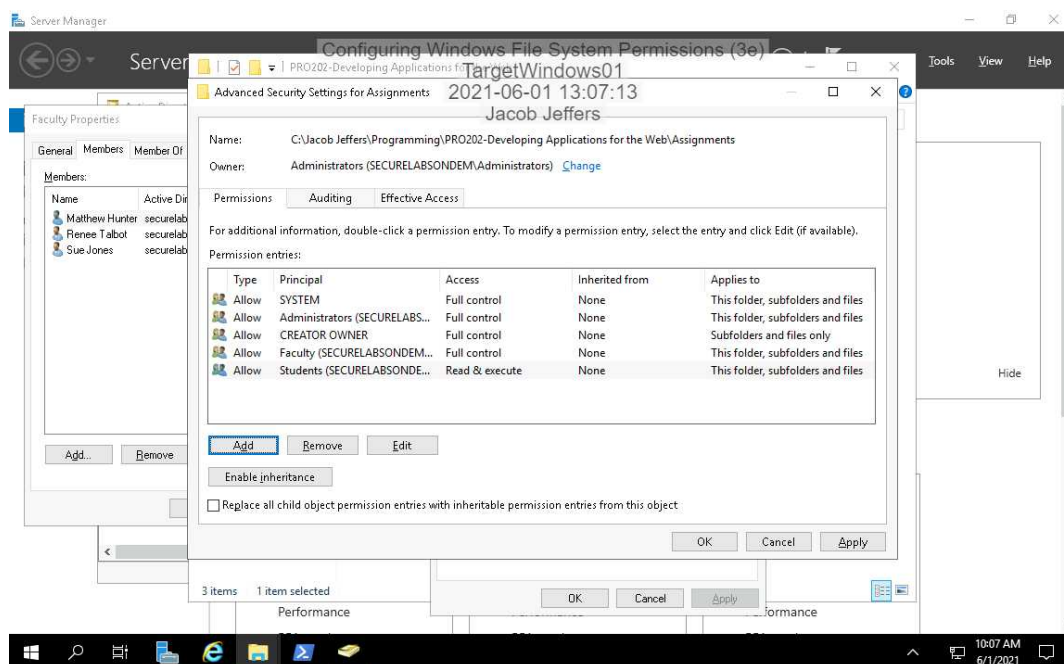
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14. Make a screen capture showing the **populated Members tab** of the **Faculty Properties** dialog box.



## Part 3: Set Group Permissions on Folders

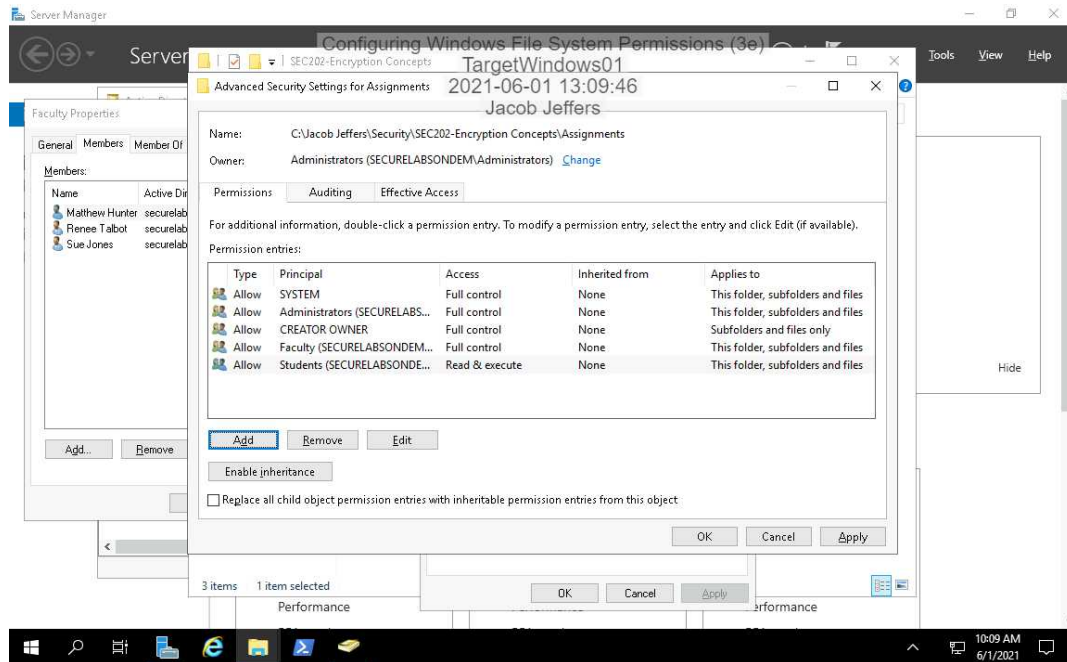
16. Make a screen capture showing the **new permissions** in the **Advanced Security Settings** for Assignment dialog box.



## Configuring Windows File System Permissions (3e)

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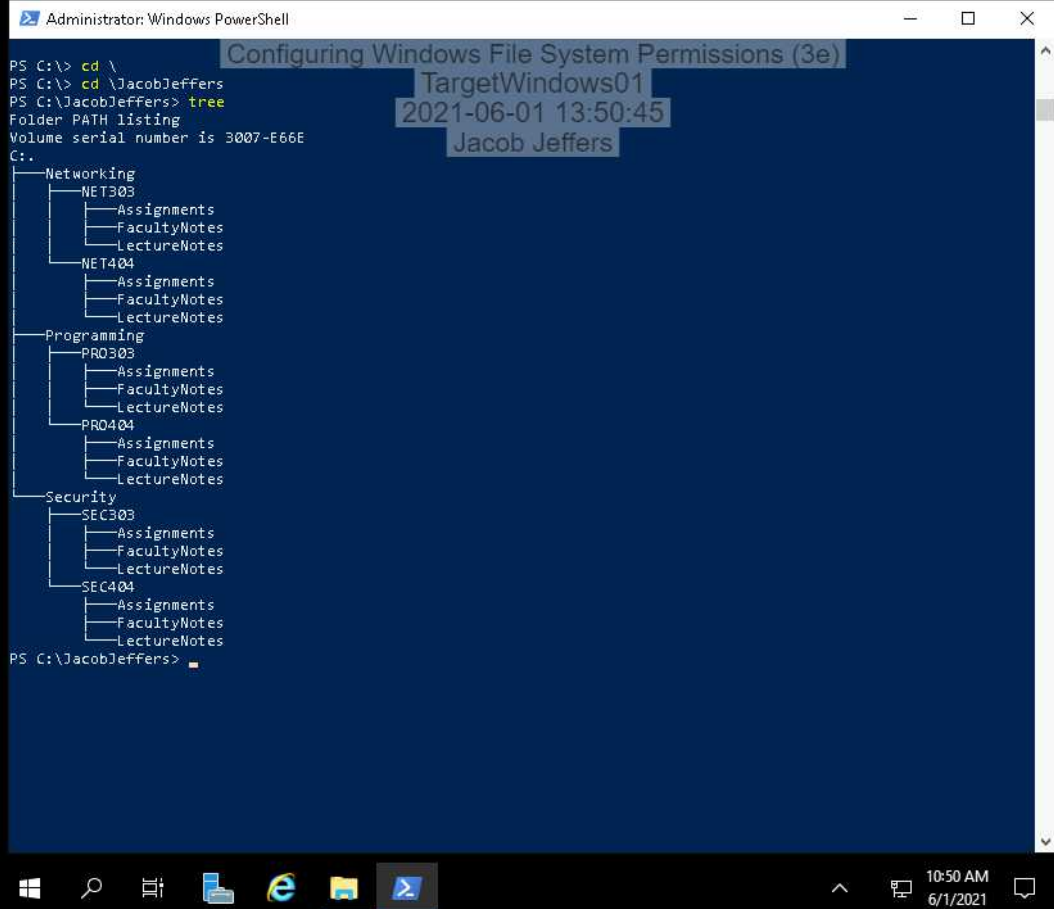
22. Make a screen capture showing the new permissions in the Advanced Security Settings for Assignment dialog box for the SEC202 Assignments folder.



## Section 2: Applied Learning

### Part 1: Create the Folder Structure

8. Make a screen capture showing the **tree** list for the **C:\yourname** directory.



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command prompt displays the following commands and output:

```
PS C:\> cd \
PS C:\> cd \JacobJeffers
PS C:\JacobJeffers> tree
Folder PATH listing
Volume serial number is 3007-E66E
C:.
|-- Networking
|   |-- NET303
|   |   |-- Assignments
|   |   |-- FacultyNotes
|   |   |-- LectureNotes
|   |-- NET404
|   |   |-- Assignments
|   |   |-- FacultyNotes
|   |   |-- LectureNotes
|-- Programming
|   |-- PR0303
|   |   |-- Assignments
|   |   |-- FacultyNotes
|   |   |-- LectureNotes
|   |-- PR0404
|   |   |-- Assignments
|   |   |-- FacultyNotes
|   |   |-- LectureNotes
|-- Security
|   |-- SEC303
|   |   |-- Assignments
|   |   |-- FacultyNotes
|   |   |-- LectureNotes
|   |-- SEC404
|   |   |-- Assignments
|   |   |-- FacultyNotes
|   |   |-- LectureNotes
PS C:\JacobJeffers>
```

The directory tree structure is as follows:

- Networking
  - NET303
    - Assignments
    - FacultyNotes
    - LectureNotes
  - NET404
    - Assignments
    - FacultyNotes
    - LectureNotes
- Programming
  - PR0303
    - Assignments
    - FacultyNotes
    - LectureNotes
  - PR0404
    - Assignments
    - FacultyNotes
    - LectureNotes
- Security
  - SEC303
    - Assignments
    - FacultyNotes
    - LectureNotes
  - SEC404
    - Assignments
    - FacultyNotes
    - LectureNotes

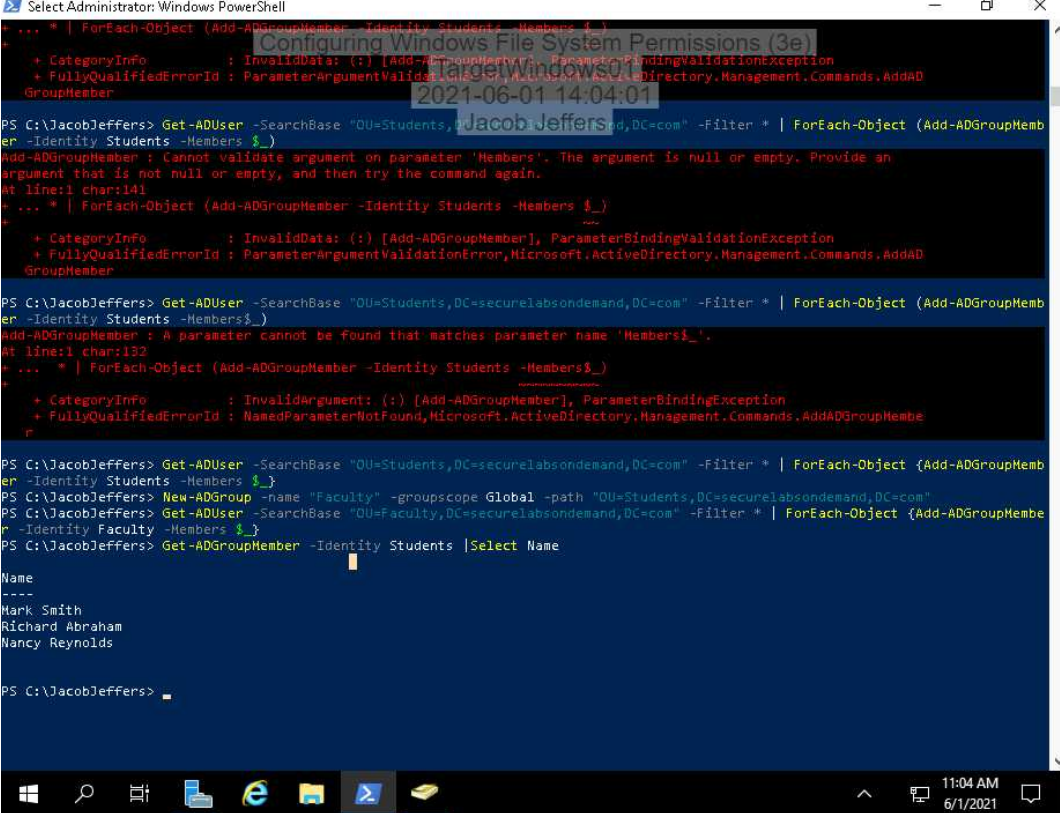
The Windows taskbar at the bottom shows the time as 10:50 AM on 6/1/2021.

### Part 2: Create Security Groups

# Configuring Windows File System Permissions (3e)

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### 5. Make a screen capture showing the members of the Students Security group.



```
Select Administrator: Windows PowerShell

... * | ForEach-Object (Add-ADGroupMember -Identity Students -Members $_)
+ CategoryInfo          : InvalidData: (:) [Add-ADGroupMember], ParameterBindingValidationException
+ FullyQualifiedErrorId : ParameterArgumentValidationError,Microsoft.ActiveDirectory.Management.Commands.AddADGroupMember

PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Students,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object (Add-ADGroupMember -Identity Students -Members $_)
Add-ADGroupMember : Cannot validate argument on parameter 'Members'. The argument is null or empty. Provide an argument that is not null or empty, and then try the command again.
At line:1 char:141
+ ... * | ForEach-Object (Add-ADGroupMember -Identity Students -Members $_)
+ ~~~~~
+ CategoryInfo          : InvalidData: (:) [Add-ADGroupMember], ParameterBindingValidationException
+ FullyQualifiedErrorId : ParameterArgumentValidationError,Microsoft.ActiveDirectory.Management.Commands.AddADGroupMember

PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Students,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object (Add-ADGroupMember -Identity Students -Members $_)
Add-ADGroupMember : A parameter cannot be found that matches parameter name 'Members$'.
At line:1 char:132
+ ... * | ForEach-Object (Add-ADGroupMember -Identity Students -Members$)
+ ~~~~~
+ CategoryInfo          : InvalidArgument: (:) [Add-ADGroupMember], ParameterBindingException
+ FullyQualifiedErrorId : NamedParameterNotFound,Microsoft.ActiveDirectory.Management.Commands.AddADGroupMember

PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Students,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object (Add-ADGroupMember -Identity Students -Members $_)
PS C:\JacobJeffers> New-ADGroup -name "Faculty" -groupscope Global -path "OU=Students,DC=securelabsondemand,DC=com"
PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Faculty,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object (Add-ADGroupMember -Identity Faculty -Members $_)
PS C:\JacobJeffers> Get-ADGroupMember -Identity Students | Select Name

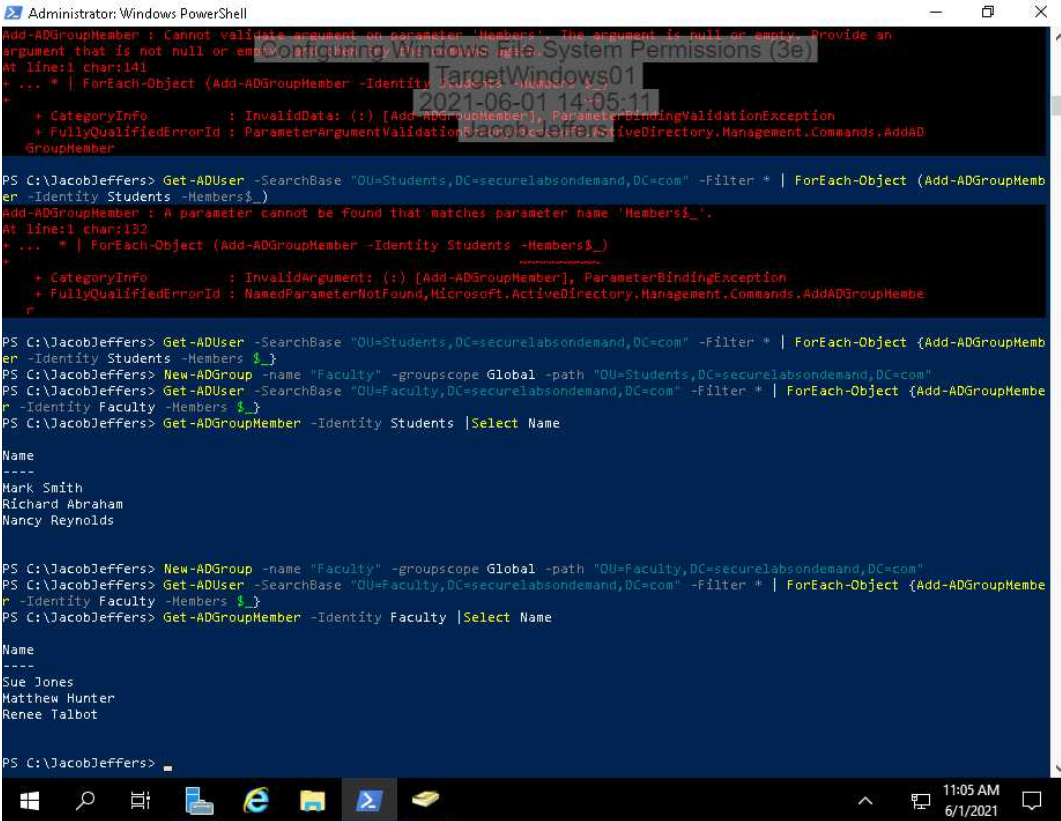
Name
----
Mark Smith
Richard Abraham
Nancy Reynolds

PS C:\JacobJeffers>
```

## Configuring Windows File System Permissions (3e)

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### 7. Make a screen capture showing the members of the Faculty Security group.



```
Administrator: Windows PowerShell

Add-ADGroupMember : Cannot validate argument on parameter 'Members'. The argument is null or empty. Provide an argument that is not null or empty.
At line:1 char:141
... * | ForEach-Object {Add-ADGroupMember -Identity $_.Name -Members $null}

+ CategoryInfo          : InvalidData: (:) [Add-ADGroupMember], ParameterBindingValidationException
+ FullyQualifiedErrorId : ParameterArgumentValidationError,Microsoft.ActiveDirectory.Management.Commands.AddADGroupMember

PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Students,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object {Add-ADGroupMember -Identity Students -Members $_}
Add-ADGroupMember : A parameter cannot be found that matches parameter name 'Members$'.
At line:1 char:132
... * | ForEach-Object {Add-ADGroupMember -Identity Students -Members $_}

+ CategoryInfo          : InvalidArgument: (:) [Add-ADGroupMember], ParameterBindingException
+ FullyQualifiedErrorId : NamedParameterNotFound,Microsoft.ActiveDirectory.Management.Commands.AddADGroupMember

PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Students,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object {Add-ADGroupMember -Identity Students -Members $_}
PS C:\JacobJeffers> New-ADGroup -name "Faculty" -groupscope Global -path "OU=Students,DC=securelabsondemand,DC=com"
PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Faculty,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object {Add-ADGroupMember -Identity Faculty -Members $_}
PS C:\JacobJeffers> Get-ADGroupMember -Identity Students | Select Name

Name
----
Mark Smith
Richard Abraham
Nancy Reynolds

PS C:\JacobJeffers> New-ADGroup -name "Faculty" -groupscope Global -path "OU=Faculty,DC=securelabsondemand,DC=com"
PS C:\JacobJeffers> Get-ADUser -SearchBase "OU=Faculty,DC=securelabsondemand,DC=com" -Filter * | ForEach-Object {Add-ADGroupMember -Identity Faculty -Members $_}
PS C:\JacobJeffers> Get-ADGroupMember -Identity Faculty | Select Name

Name
----
Sue Jones
Matthew Hunter
Renee Talbot

PS C:\JacobJeffers>
```

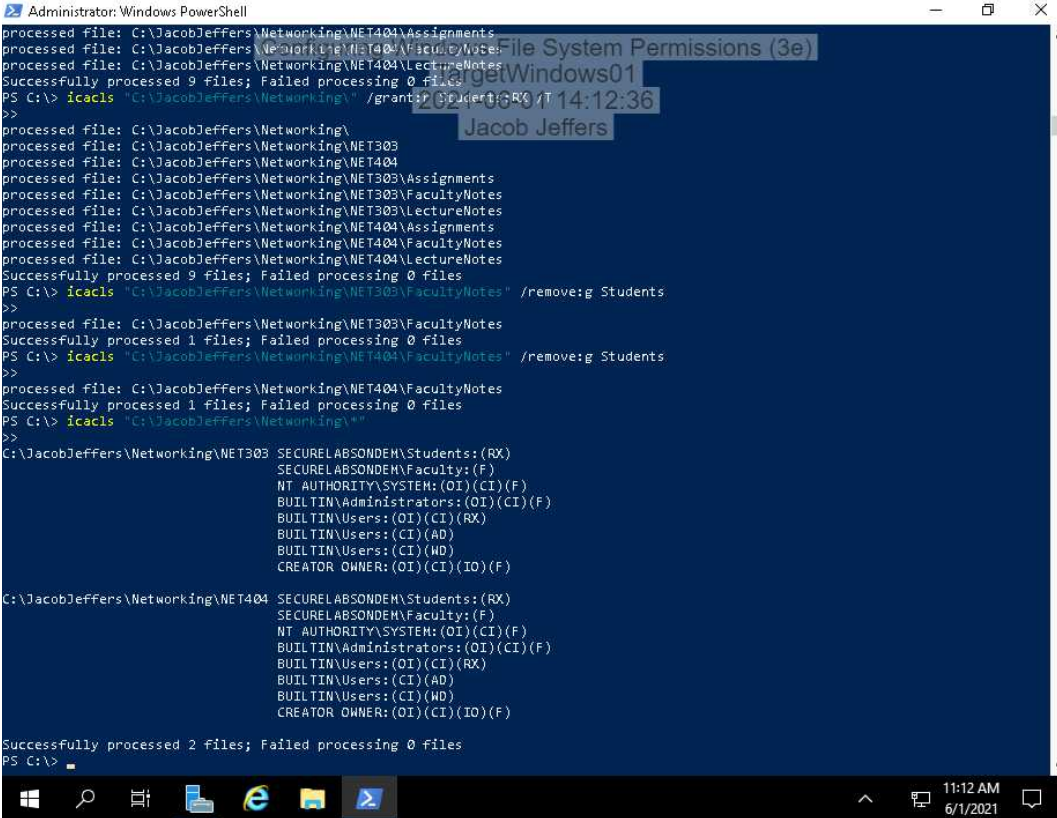
## Part 3: Set Group Permissions on Folders



# Configuring Windows File System Permissions (3e)

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7. Make a screen capture showing the permissions for the folders in the Networking department.



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The window displays the output of the `getWindowsPermissions` command, which processes files in the `C:\JacobJeffers\Networking` directory. The output shows that the command successfully processed 9 files and failed processing 0 files. The permissions for the folders are listed as follows:

```
PS C:\> getWindowsPermissions
processed file: C:\JacobJeffers\Networking\NET404\Assignments
processed file: C:\JacobJeffers\Networking\NET404\FacultyNotes
processed file: C:\JacobJeffers\Networking\NET404\LectureNotes
Successfully processed 9 files; Failed processing 0 files
PS C:\> icacis "C:\JacobJeffers\Networking\" /grant:g Students
>>
processed file: C:\JacobJeffers\Networking\
processed file: C:\JacobJeffers\Networking\NET303
processed file: C:\JacobJeffers\Networking\NET404
processed file: C:\JacobJeffers\Networking\NET303\Assignments
processed file: C:\JacobJeffers\Networking\NET303\FacultyNotes
processed file: C:\JacobJeffers\Networking\NET303\LectureNotes
processed file: C:\JacobJeffers\Networking\NET404\Assignments
processed file: C:\JacobJeffers\Networking\NET404\FacultyNotes
processed file: C:\JacobJeffers\Networking\NET404\LectureNotes
Successfully processed 9 files; Failed processing 0 files
PS C:\> icacis "C:\JacobJeffers\Networking\NET303\FacultyNotes" /remove:g Students
>>
processed file: C:\JacobJeffers\Networking\NET303\FacultyNotes
Successfully processed 1 files; Failed processing 0 files
PS C:\> icacis "C:\JacobJeffers\Networking\NET404\FacultyNotes" /remove:g Students
>>
processed file: C:\JacobJeffers\Networking\NET404\FacultyNotes
Successfully processed 1 files; Failed processing 0 files
PS C:\> icacis "C:\JacobJeffers\Networking\"
>>
C:\JacobJeffers\Networking\NET303 SECURELABSONDEH\Students: (RX)
SECURELABSONDEH\Faculty: (F)
NT AUTHORITY\SYSTEM: (OI)(CI)(F)
BUILTIN\Administrators: (OI)(CI)(F)
BUILTIN\Users: (OI)(CI)(RX)
BUILTIN\Users: (CI)(AD)
BUILTIN\Users: (CI)(WD)
CREATOR OWNER: (OI)(CI)(IO)(F)

C:\JacobJeffers\Networking\NET404 SECURELABSONDEH\Students: (RX)
SECURELABSONDEH\Faculty: (F)
NT AUTHORITY\SYSTEM: (OI)(CI)(F)
BUILTIN\Administrators: (OI)(CI)(F)
BUILTIN\Users: (OI)(CI)(RX)
BUILTIN\Users: (CI)(AD)
BUILTIN\Users: (CI)(WD)
CREATOR OWNER: (OI)(CI)(IO)(F)

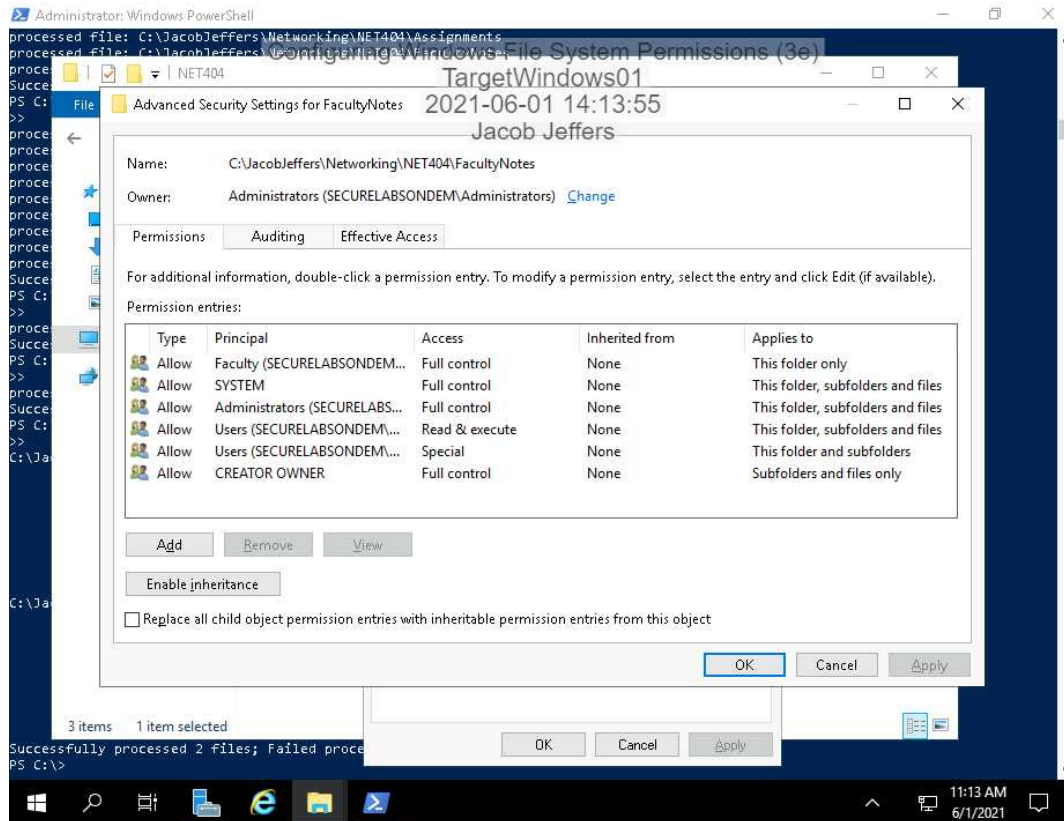
Successfully processed 2 files; Failed processing 0 files
PS C:\>
```

The taskbar at the bottom shows the Windows Start button, search icon, task view icon, and several application icons. The system clock in the bottom right corner indicates the time is 11:12 AM on 6/1/2021.

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10. **Make a screen capture** showing the **permissions** for the **FacultyNotes** folder in the **Advanced Security Settings** dialog box.





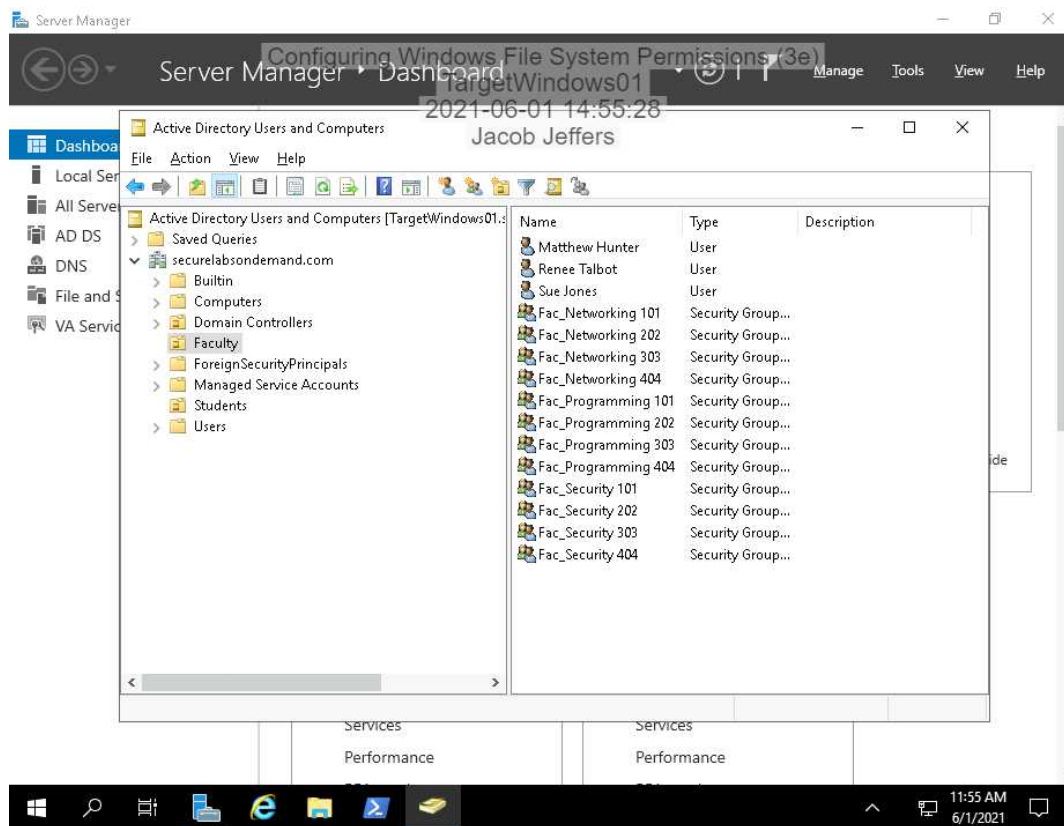
### Section 3: Challenge and Analysis

#### Part 1: Modify the Group Structure

**Describe** how you would modify the group structure and file system permissions to accommodate this request.

The Department Chair for Security wants to ensure that only students and teachers in their respective courses are able to view the files within their class. She also wants to know who has the ability to edit the directory. I would assign a group for each course. In that group, I would add students and faculty associated with that. To look at who is able to edit the directory, I would perform an audit.

**Make a screen capture** showing the **updated Groups associated with the Faculty OU**.

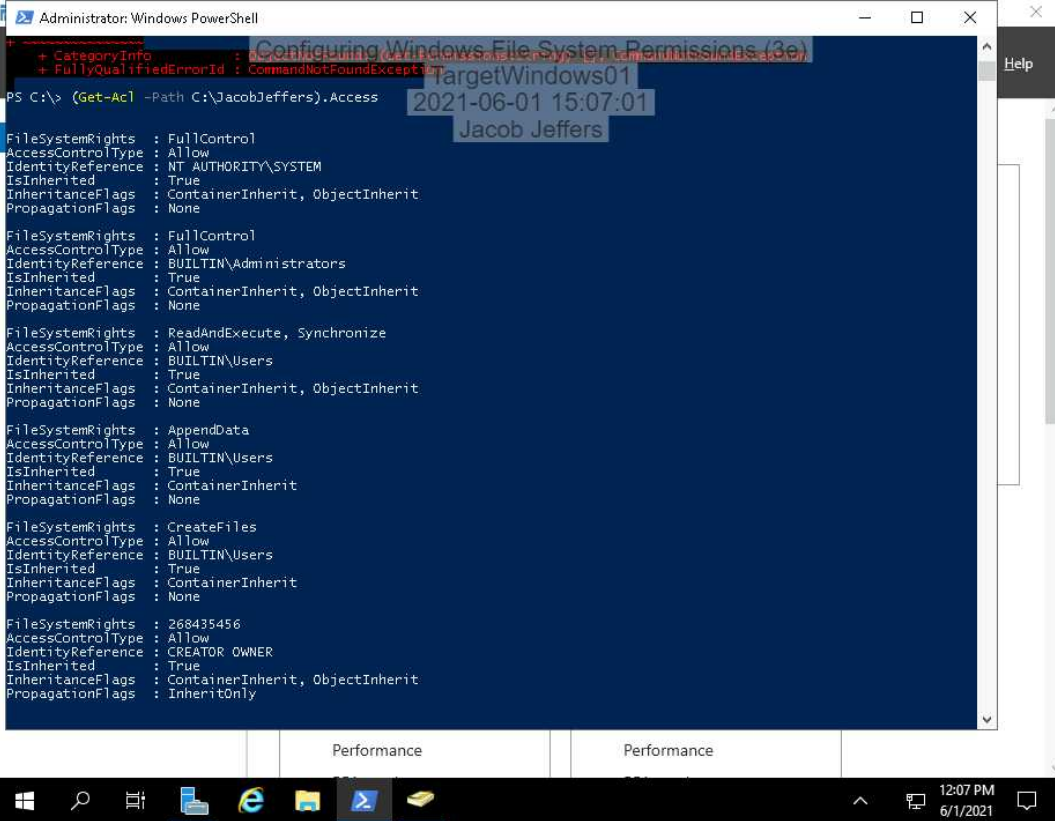


#### Part 2: Audit Folder Permissions

## Configuring Windows File System Permissions (3e)

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**Make a screen capture showing the permissions for the C:\yourname\Security folder in PowerShell.**



```
Administrator: Windows PowerShell
+ CategoryInfo          : Security
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\> (Get-Ac) -Path C:\JacobJeffers\Access

FileSystemRights : FullControl
AccessControlType : Allow
IdentityReference : NT AUTHORITY\SYSTEM
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights : FullControl
AccessControlType : Allow
IdentityReference : BUILTIN\Administrators
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights : ReadAndExecute, Synchronize
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights : AppendData
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit
PropagationFlags  : None

FileSystemRights : CreateFiles
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit
PropagationFlags  : None

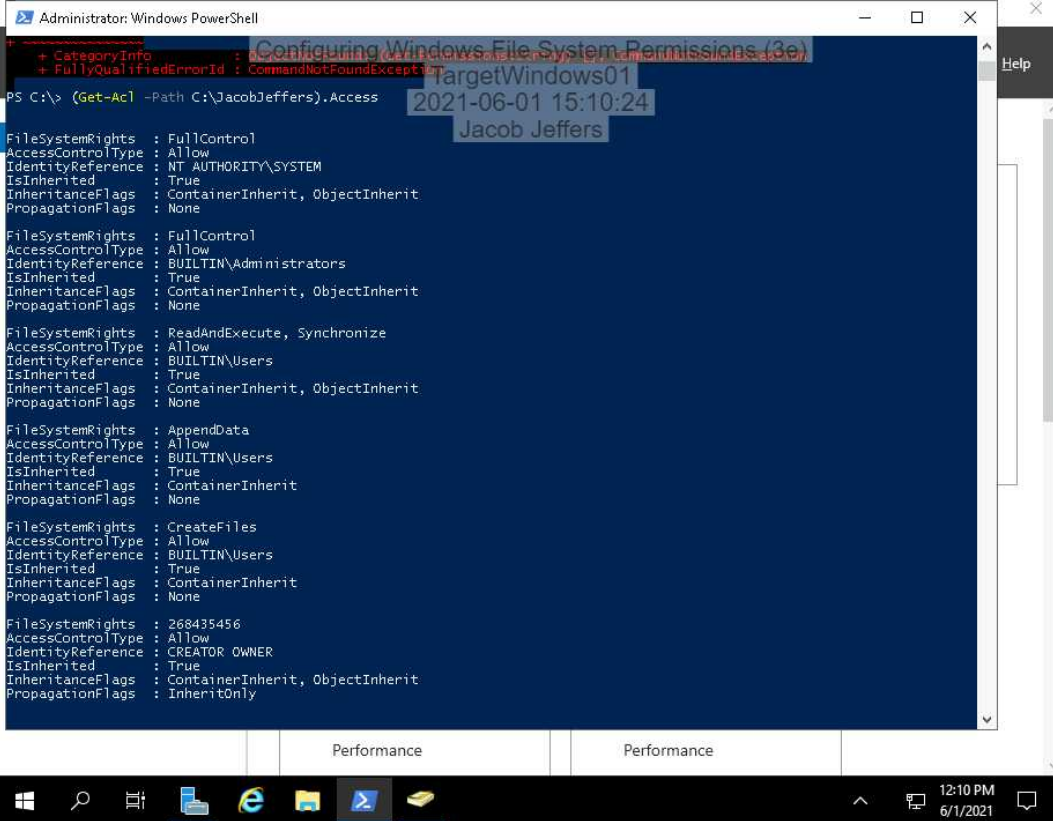
FileSystemRights : 268435456
AccessControlType : Allow
IdentityReference : CREATOR OWNER
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : InheritOnly
```

### Part 3: Modify Folder Permissions

## Configuring Windows File System Permissions (3e)

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**Make a screen capture** showing the **modified permissions** for the **C:\yourname\Security** folder in **PowerShell**.



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command prompt shows the command `(Get-Acl) -Path C:\JacobJeffers.Access` being executed. The output displays the permissions for the file `C:\JacobJeffers.Access`. The permissions are listed for four different identities: NT AUTHORITY\SYSTEM, BUILTIN\Administrators, BUILTIN\Users, and CREATOR OWNER. Each entry shows the file system rights, access control type, identity reference, inheritance flags, and propagation flags. The permissions for NT AUTHORITY\SYSTEM and BUILTIN\Administrators are FullControl. The permissions for BUILTIN\Users are ReadAndExecute, Synchronize, AppendData, and CreateFiles. The permissions for CREATOR OWNER are 268435456. The window also shows a taskbar at the bottom with various icons and a system clock indicating 12:10 PM on 6/1/2021.

```
PS C:\> (Get-Acl) -Path C:\JacobJeffers.Access

+ CategoryInfo          : Security (System.Security.AccessControl.FileSystemRights)
+ FullyQualifiedErrorId : CommandNotFoundException

FileSystemRights : FullControl
AccessControlType : Allow
IdentityReference : NT AUTHORITY\SYSTEM
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights : FullControl
AccessControlType : Allow
IdentityReference : BUILTIN\Administrators
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights : ReadAndExecute, Synchronize
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : None

FileSystemRights : AppendData
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit
PropagationFlags  : None

FileSystemRights : CreateFiles
AccessControlType : Allow
IdentityReference : BUILTIN\Users
IsInherited       : True
InheritanceFlags  : ContainerInherit
PropagationFlags  : None

FileSystemRights : 268435456
AccessControlType : Allow
IdentityReference : CREATOR OWNER
IsInherited       : True
InheritanceFlags  : ContainerInherit, ObjectInherit
PropagationFlags  : InheritOnly
```