


# Server Core / Remote Administrator Tools


 **Note:** This lab is the first lab in the second half of our course. From this point, it's time to level up, and as such we will be providing fewer detailed steps going forward. This will require you to use your existing experience and to research items on your own, preparing you for industry. You got this! :)

## Objectives:

- Setup a Windows 2019 Server Core machine to act as a file server. Use the command line to perform usual local tasks (change the IP, change the server name, etc).
- Connect to the new server **FS01** from **AD02** using RSAT and add File Services.

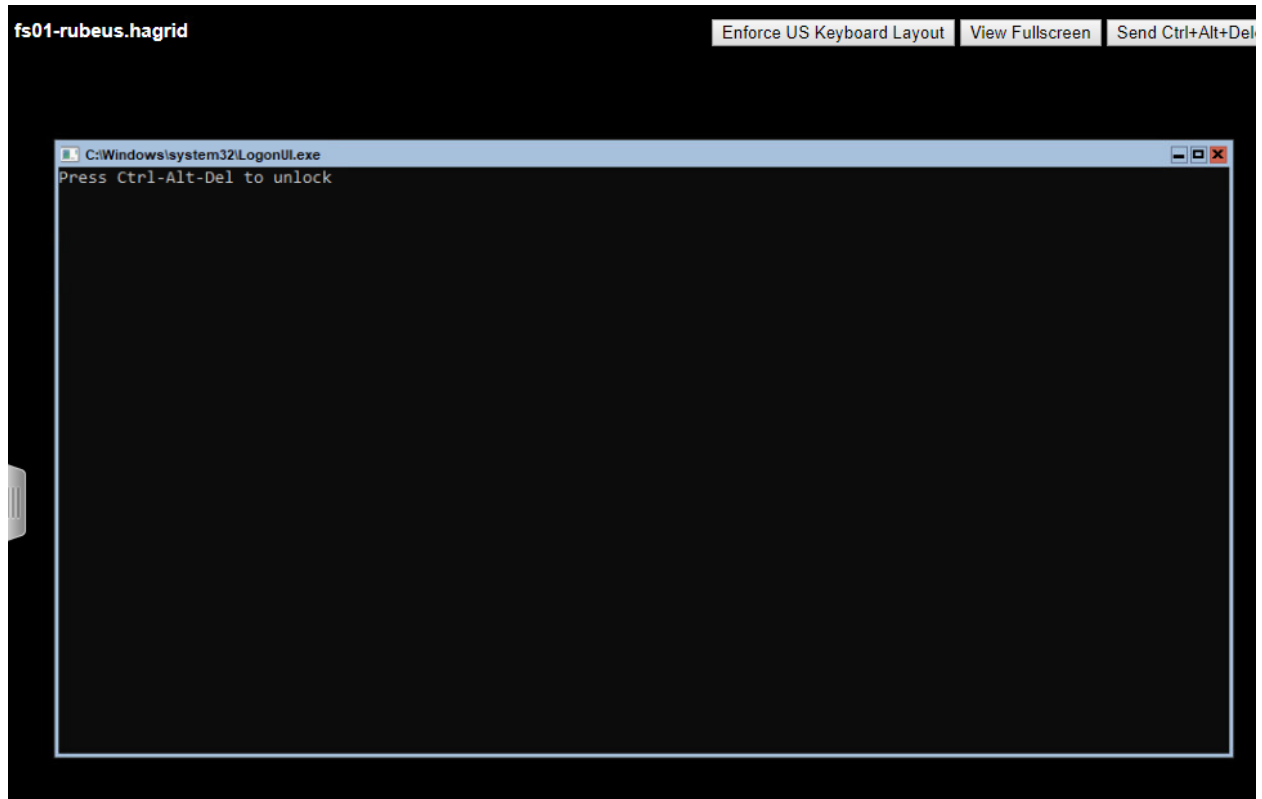
## Prerequisites:

Completed Week 06 Assessment (we will build off the existing assessment lab framework for most of the remainder of the term).

 **Time:** It is very important that all your Windows systems are on the same timezone and have accurate time with respect to one another. Windows authentication is sensitive to differences in time. Your assigned VMs have this set, but this is not always the case. Redmond, WA (home of Microsoft) is in the Pacific Standard Time-zone.

## FS01 Requirements

- hostname = **FS01**-*firstname*
- Domain = *yourdomain*.local ([FQDN](#) = *fs01-firstname.yourdomain.local*)
- IP = 10.0.5.8
- Gateway & DNS IP's
- Join the server to your AD domain, after new OS is configured as previous OS's
- Connect to new server from ad02 using RSAT and add the **File Services Role**
- Create a security group



1. You will be prompted to setup a username and password. This is the Local Administrator for this server (and *not* the AD Domain Admin, since it is not joined to your AD Domain yet). Note: be sure to document the userid and password you create.
2. Set the IP address settings and the Server name using the command line: `sconfig`. The following screenshot shows what your network configuration and sconfig status should look like.

💡 You may notice that your file server receives a DHCP IP address initially (if your Assessment went well). Remember DHCP services are typically for *client* systems like workstations, laptops and mobile devices. Well-known services on servers need a *static* IP address (one that does not change).

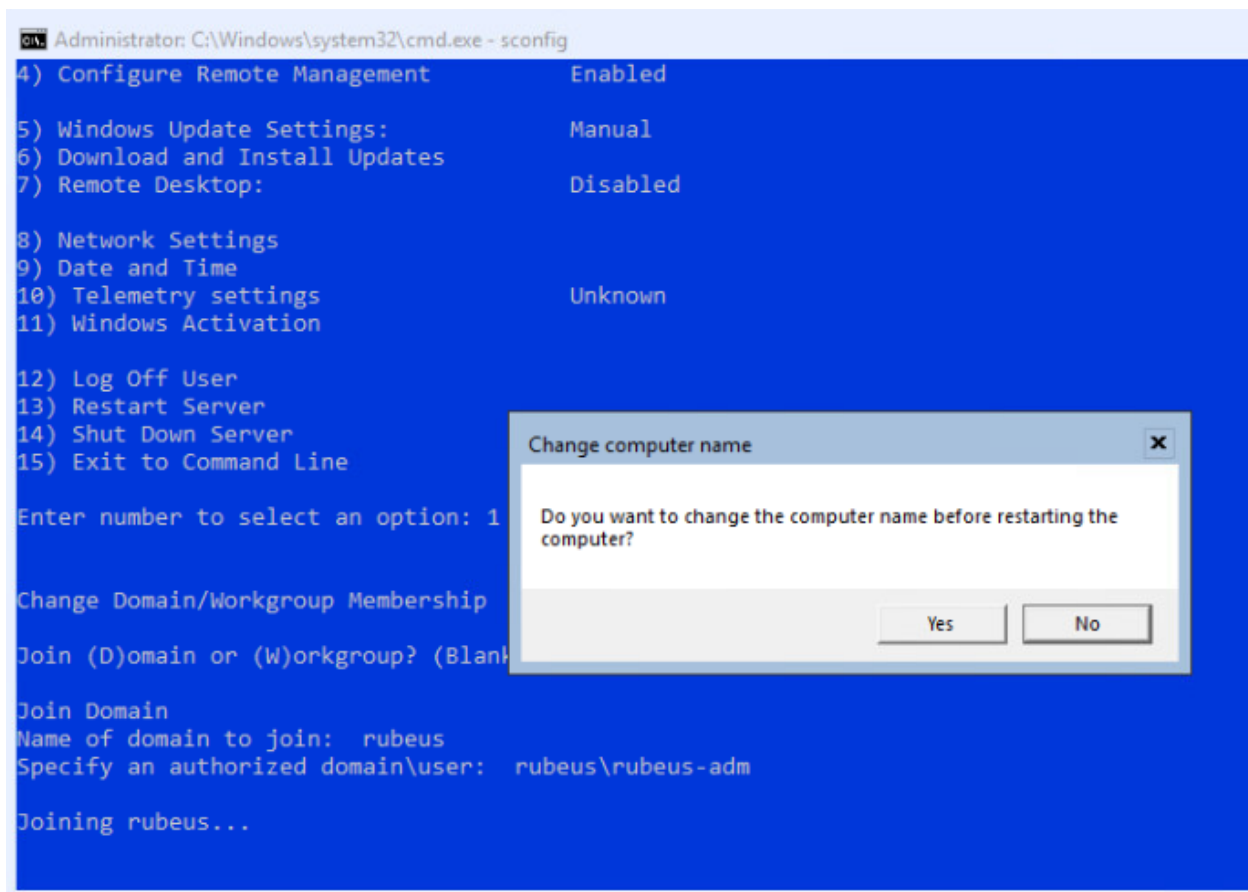
## Sample Static Network Address Settings

```
-----  
      Network Adapter Settings  
-----  
  
NIC Index           1  
Description          Intel(R) 82574L Gigabit Network Connection  
IP Address           10.0.5.8           fe80::108f:a879:13bb:90ca  
Subnet Mask          255.255.255.0  
DHCP enabled         False  
Default Gateway      10.0.5.2  
Preferred DNS Server 10.0.5.6  
Alternate DNS Server  
  
1) Set Network Adapter Address  
2) Set DNS Servers  
3) Clear DNS Server Settings  
4) Return to Main Menu  
  
Select option:
```

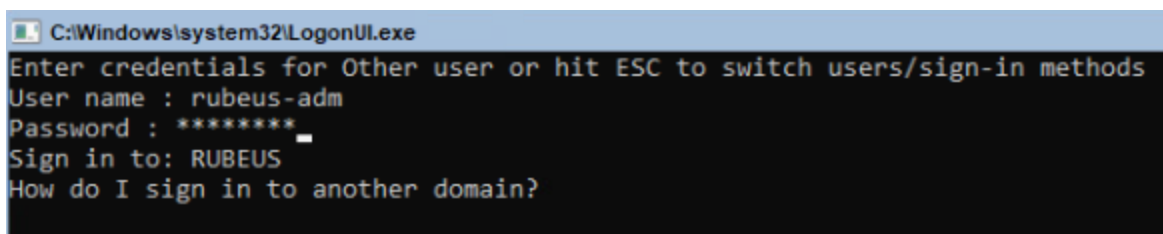
## Sample sconfig before Domain Join

```
Administrator: C:\Windows\system32\cmd.exe - sconfig  
Microsoft (R) Windows Script Host Version 5.812  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Inspecting system...  
  
-----  
      Server Configuration  
-----  
  
1) Domain/Workgroup:      Workgroup:  WORKGROUP  
2) Computer Name:         FS01-RUBEUS  
3) Add Local Administrator  
4) Configure Remote Management      Enabled  
  
5) Windows Update Settings:      Manual  
6) Download and Install Updates  
7) Remote Desktop:           Disabled  
  
8) Network Settings  
9) Date and Time  
10) Telemetry settings        Unknown  
11) Windows Activation  
  
12) Log Off User  
13) Restart Server  
14) Shut Down Server  
15) Exit to Command Line  
  
Enter number to select an option:
```

- After changing the server name, reboot the server and then join your Active Directory Domain using sconfig's Domain/Workgroup option (it might sit there for a couple minutes).



- Log in to your AD Domain using **-adm** account via the Other user option.



Deliverable 1: Show the sconfig cmd after setting the network, computer name, update settings, and joining the AD domain. (example below)

```
Administrator: C:\Windows\system32\cmd.exe - sconfig
Microsoft (R) Windows Script Host Version 5.812
Copyright (C) Microsoft Corporation. All rights reserved.

Inspecting system...

=====
                        Server Configuration
=====

1) Domain/Workgroup:                Domain:  rubeus.local
2) Computer Name:                   FS01-RUBEUS
3) Add Local Administrator
4) Configure Remote Management      Enabled
5) Windows Update Settings:         Manual
6) Download and Install Updates
7) Remote Desktop:                  Disabled
8) Network Settings
9) Date and Time
10) Telemetry settings              Unknown
11) Windows Activation
12) Log Off User
13) Restart Server
14) Shut Down Server
15) Exit to Command Line

Enter number to select an option:
```

## Use RSAT to Manage FS01 via AD02

On AD02, within the **Remote Server Administration Tools (RSAT)** Feature (which is not a Role), add File Service Tools and File Server Resource Manager Tools. Make sure you are logged on to ad02 as your AD Domain named -adm user.

💡 Remote Administration in an enterprise environment would likely not be done on the Domain Controller, but rather a Domain Joined Workstation or Server with Remote Server Administration Tools installed. We are doing to avoid the installation of another server and server administration tools.

## Add Roles and Features Wizard

### Select features

Before You Begin

Installation Type

Server Selection

Server Roles

**Features**

Confirmation

Results

Select one or more features to install on the selected server.

#### Features

- ☐ Remote Assistance
- ☐ Remote Differential Compression
- ☒ Remote Server Administration Tools (4 of 43 installed)
  - ☐ Feature Administration Tools
  - ☒ Role Administration Tools (4 of 26 installed)
    - ☒ AD DS and AD LDS Tools (3 of 4 installed)
    - ☐ Hyper-V Management Tools
    - ☐ Remote Desktop Services Tools
    - ☐ Windows Server Update Services Tools
    - ☐ Active Directory Certificate Services Tools
    - ☐ Active Directory Rights Management Services Tools
    - ☐ DHCP Server Tools
    - ☒ DNS Server Tools (Installed)
    - ☐ Fax Server Tools
    - ☒ File Services Tools
      - ☐ DFS Management Tools
      - ☒ **File Server Resource Manager Tools**
      - ☐ Services for Network File System Management
    - ☐ Network Policy and Access Services Tools

#### Description

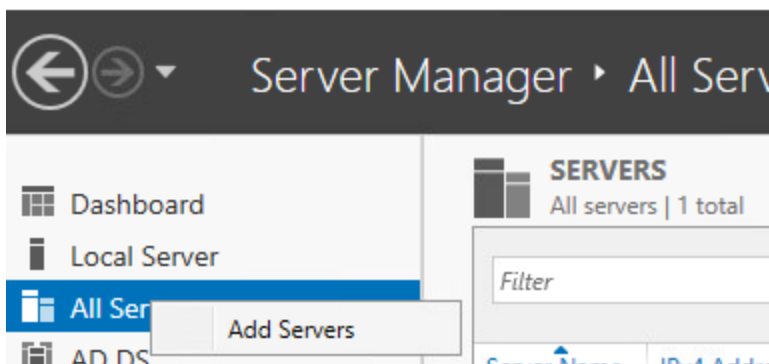
Includes the  
Manager snap-in,  
files, and

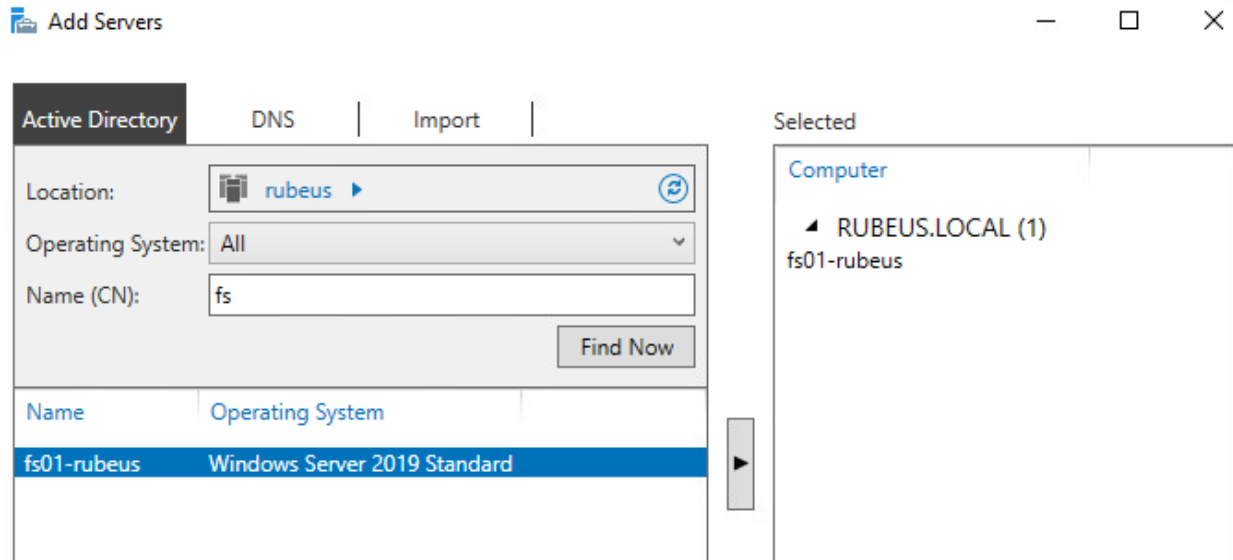
< Previous

Next >

## Add FS01 to All Servers

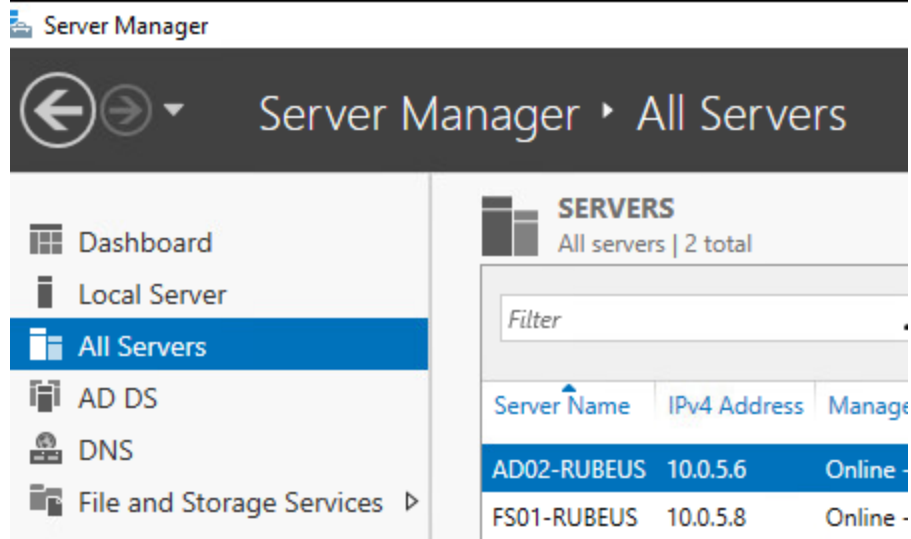
### Server Manager



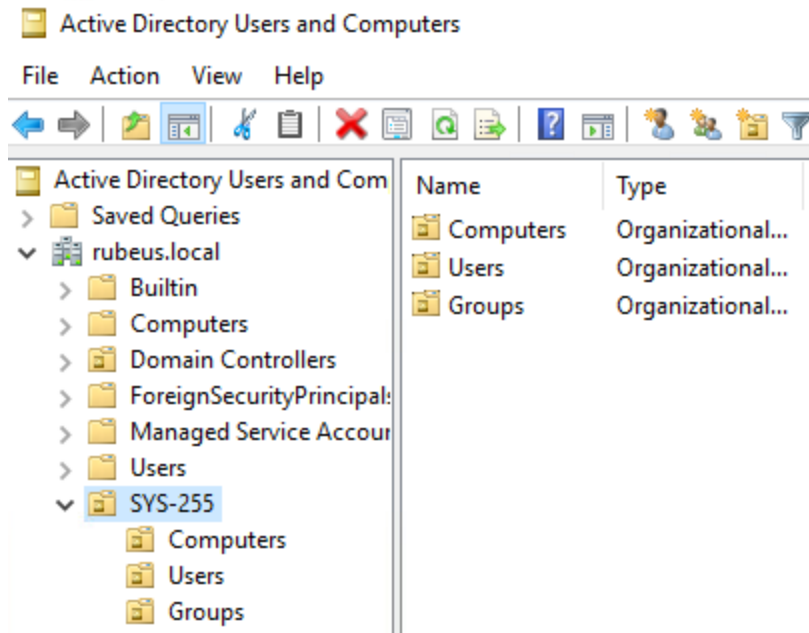


Deliverable 2. Provide a screenshot that shows that from AD02, you have access to FS01 and AD02

**ad-assessment-SYS255-02-rubeus.hagrid**



On AD02, create the following OU Structure:



- Create a new Global security group (Sales-Users) in the Groups OU.
- Create two users (Bob and Alice) as standard domain users, in the new SYS255\Users OU
- Add Alice to the Sales-Users group

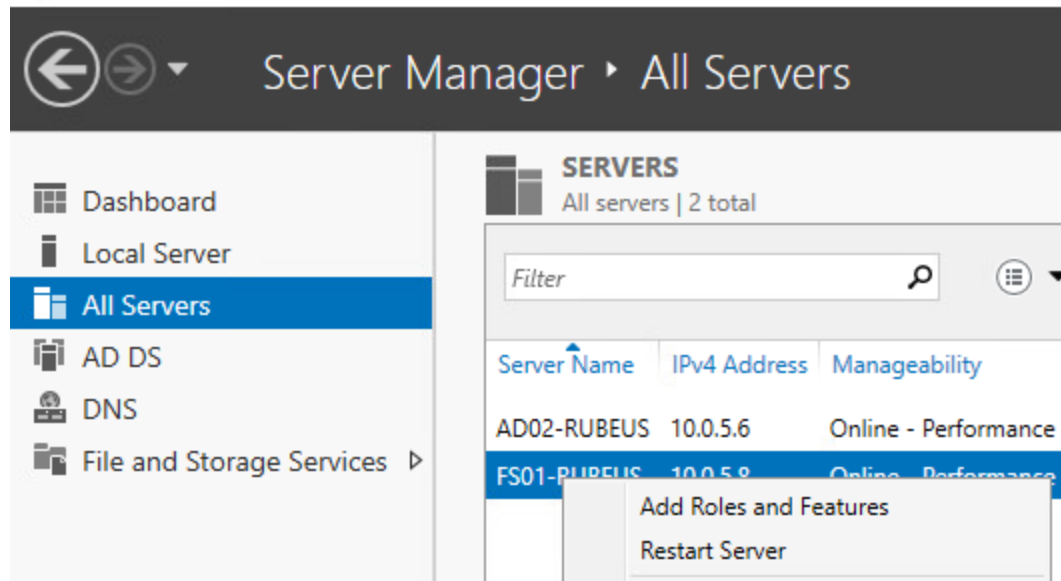
💡 What's with the Alice and Bob Users? See [https://en.wikipedia.org/wiki/Alice\\_and\\_Bob](https://en.wikipedia.org/wiki/Alice_and_Bob)



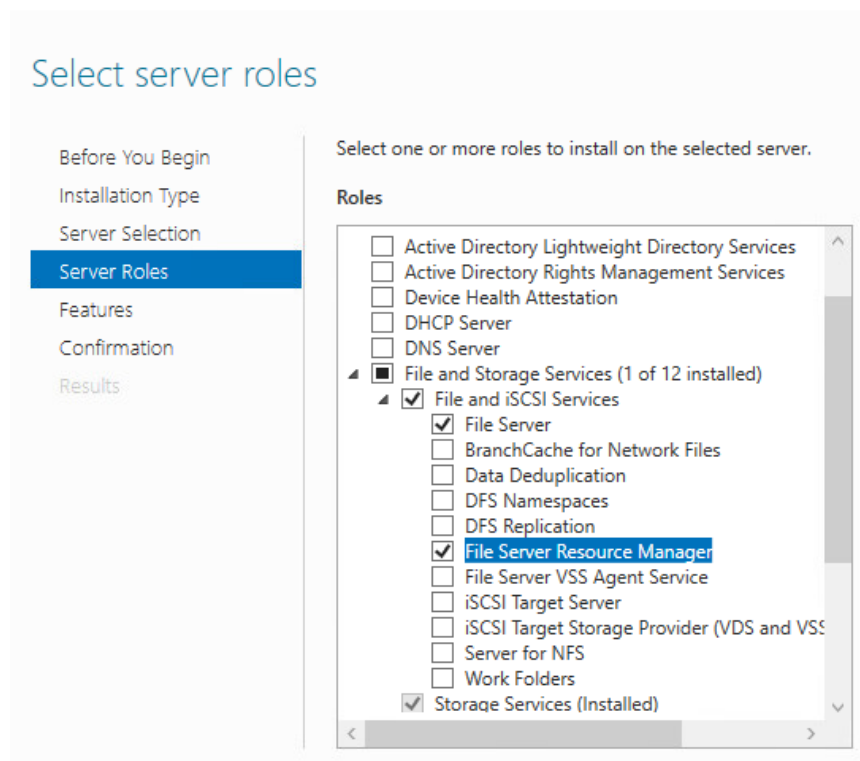
Use RSAT to add to FS01 and create a Sales Users share

On AD02, use the Add Roles and Features option on FS01

Server Manager



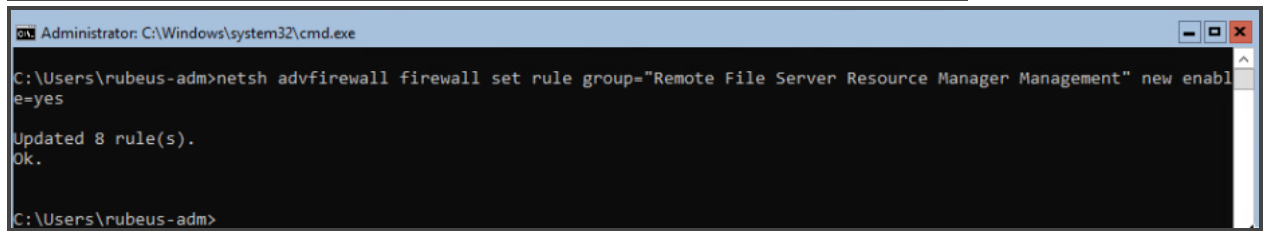
Add Roles and Features Wizard



💡 Although not necessary for simple share management and configuration, the Remote File Server Resource Management Tool is useful for more advanced configuration and is often installed alongside remote management for File Servers.

1. Run the following [Net Shell \(netsh\)](#) command on **fs01** to open the firewall for managing the File Server

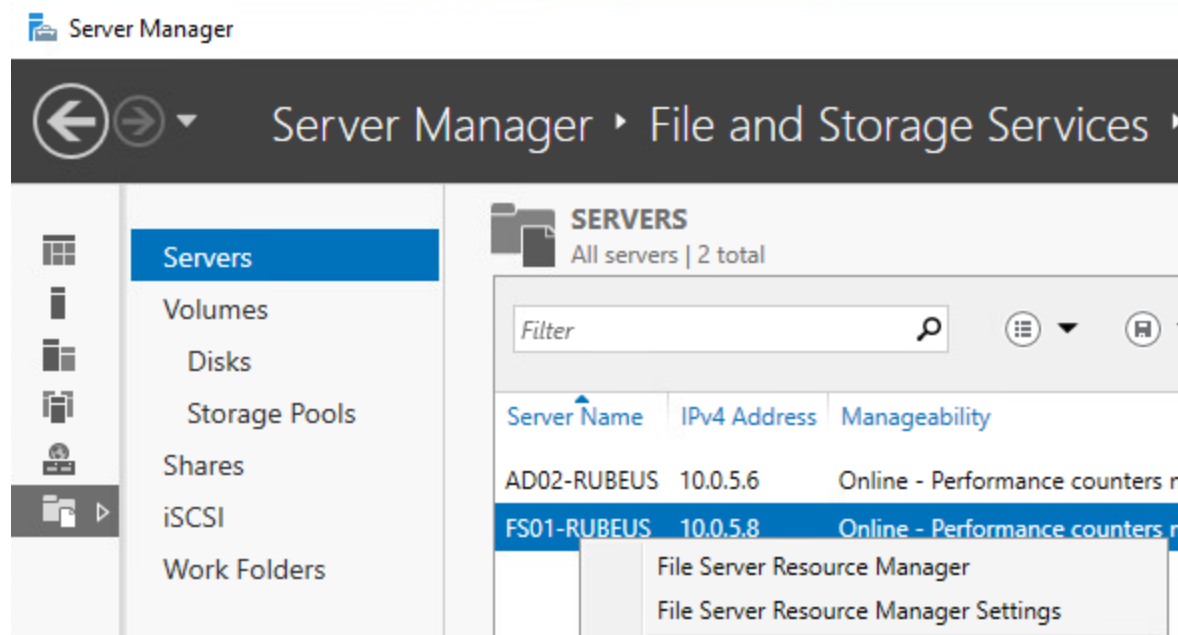
```
netsh advfirewall firewall set rule group="Remote File  
Server Resource Manager Management" new enable=yes
```



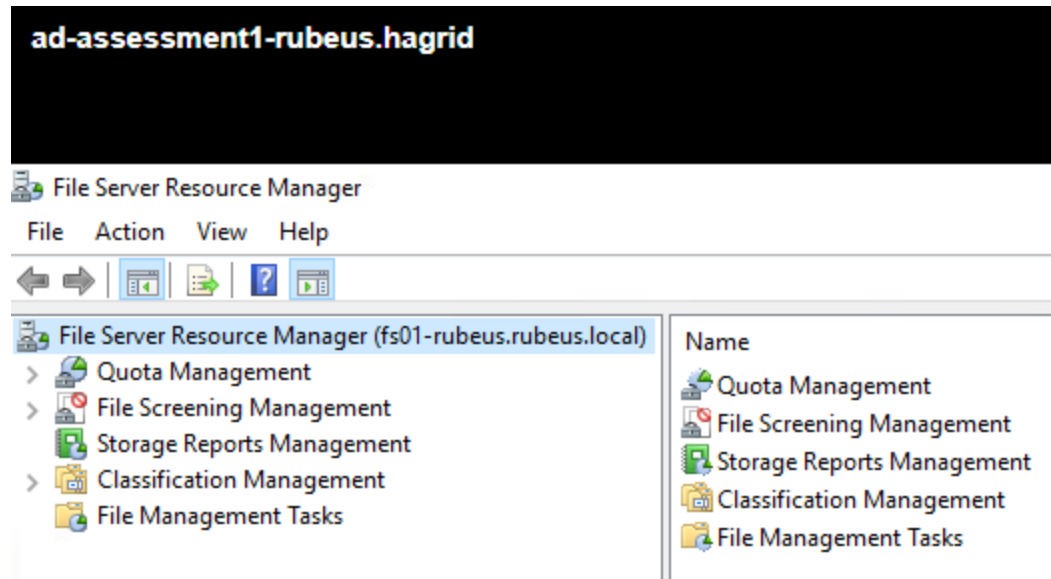
Administrator: C:\Windows\system32\cmd.exe

```
C:\Users\rubeus-admin>netsh advfirewall firewall set rule group="Remote File Server Resource Manager Management" new enable=yes  
Updated 8 rule(s).  
Ok.  
C:\Users\rubeus-admin>
```


2. On AD02, Connect to **FS01** using File Server Resource Manager to test the command just ran above. Make sure to select Files and Storage Services -> Servers.



Deliverable 3: Take a screenshot of the FSRM and VM banner similar to that below:



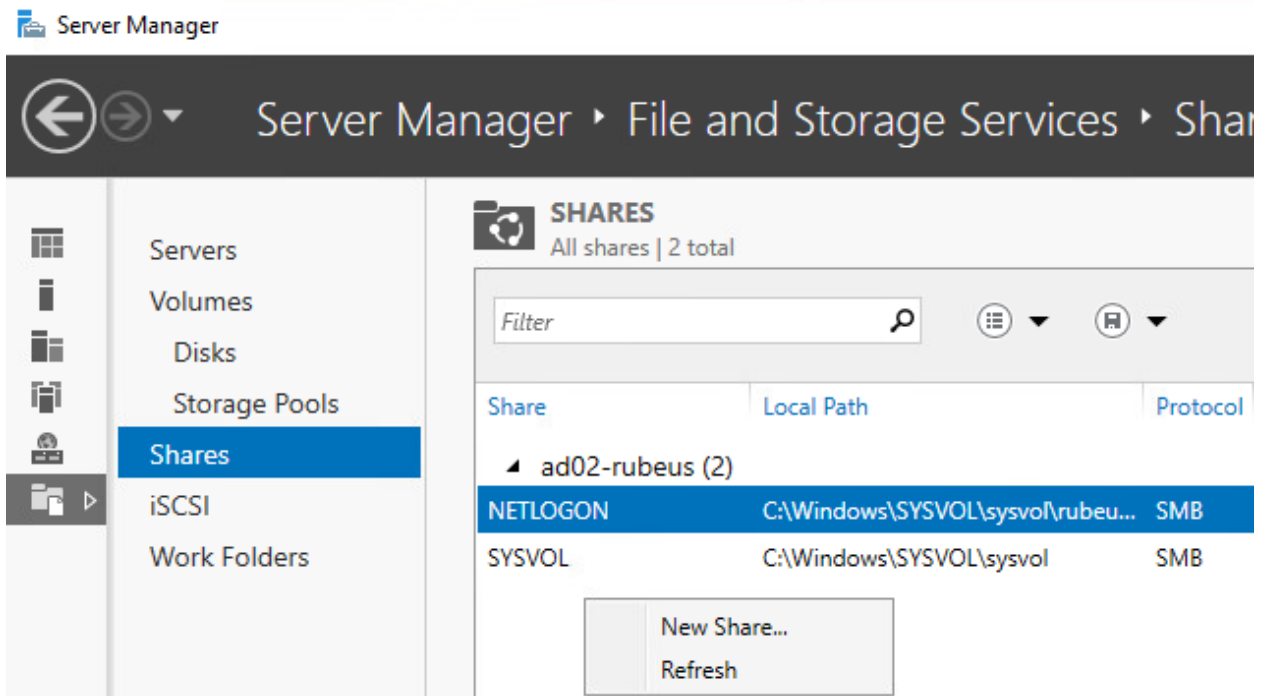
Create a new share on **FS01** using [Server Manager](#)

 **Note:** An extremely common issue you'll encounter in MS Window environments are the differences between *Local Permissions* vs. *Share Permissions*:

- Local Permissions (also called NTFS Permissions): Permissions that are applied only Locally (and not Remotely) on the OS, and affects both Local (i.e. via keyboard) and Remote (i.e. via network) account access.
- Share Permissions: Permissions that are applied only Remotely (and not Locally) to the OS, and affects only Remote (i.e. via network shares) account access.
- If both Shared & Local Permissions are set, then MOST RESTRICTIVE PERMISSION WINS. #LeastPriledgeRules

Decent [summary](#) here.

Launch [Server Manager](#) and create a New Share



Choose the SMB Quick Share option.

Choose the fs01 server, and leave the Select by volume options alone.

## Select the server and path for this share

Select Profile

Share Location

Share Name

Other Settings

Permissions

Confirmation

Results

Server:

Server Name	Status	Cluster Role	Owner Node
ad02-rubeus	Online	Not Clustered	
fs01-rubeus	Online	Not Clustered	

Share location:

☒ Select by volume:

Volume	Free Space	Capacity	File System
C:	28.7 GB	39.5 GB	NTFS

The location of the file share will be a new folder in the \Shares directory on the selected volume.

☐ Type a custom path:

Browse...

&lt; Previous

Next &gt;

Create

Cancel

Create a share named Sales, & take note of the **Local** and **Remote** paths to the share:

New Share Wizard

## Specify share name

Select Profile

Share Location

**Share Name**

Other Settings

Permissions

Confirmation

Results

Share name:

Sales

Share description:

Sales to make those Cyber \$'s!

Local path to share:

C:\Shares\Sales

**i** If the folder does not exist, the folder is created.

Remote path to share:

\\fs01-rubeus\Sales

< Previous

Next >

Create

Cancel

Next & Finish the remaining Configure Share Settings.

New Share Wizard

## View results

Select Profile

Share Location

Share Name

Other Settings

Permissions

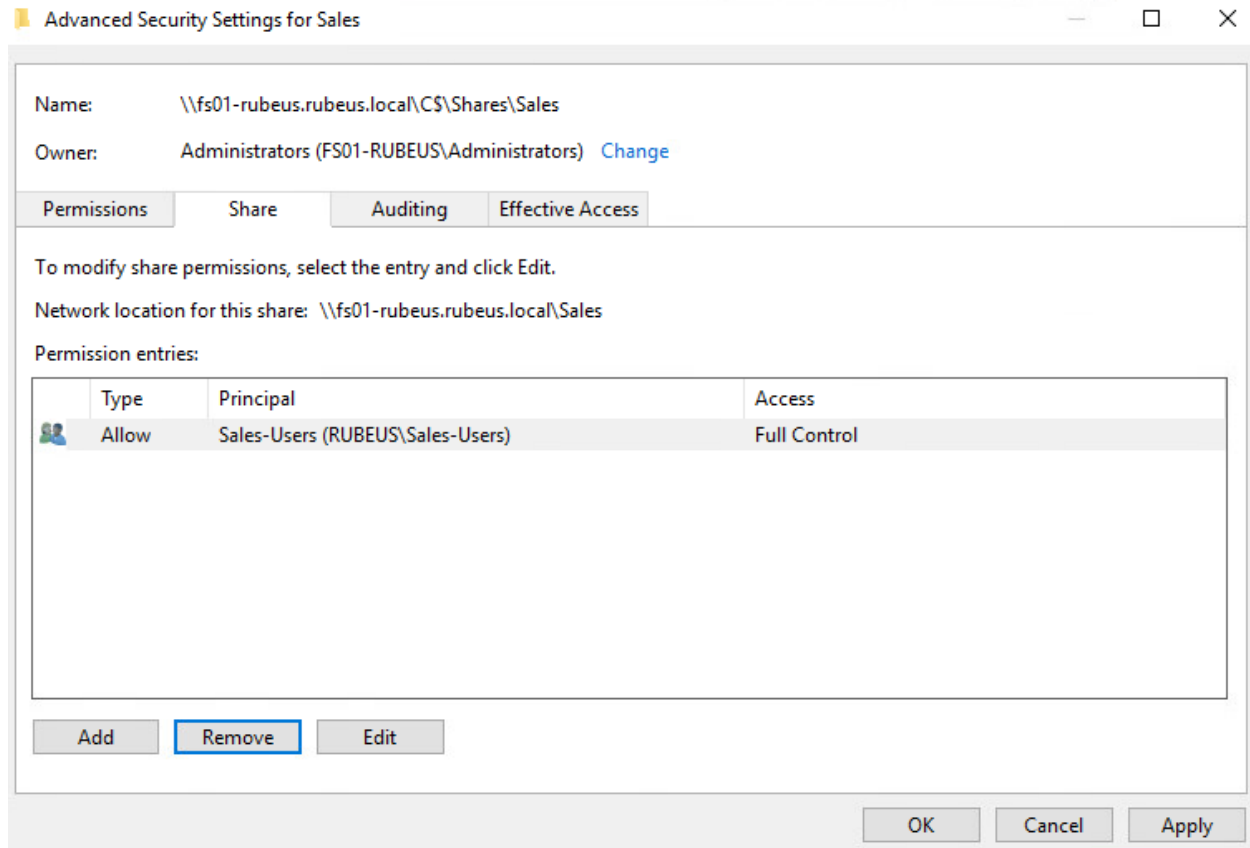
Confirmation

**Results**

The share was successfully created.

Task	Progress	Status
Create SMB share	<div></div>	Completed
Set SMB permissions	<div></div>	Completed

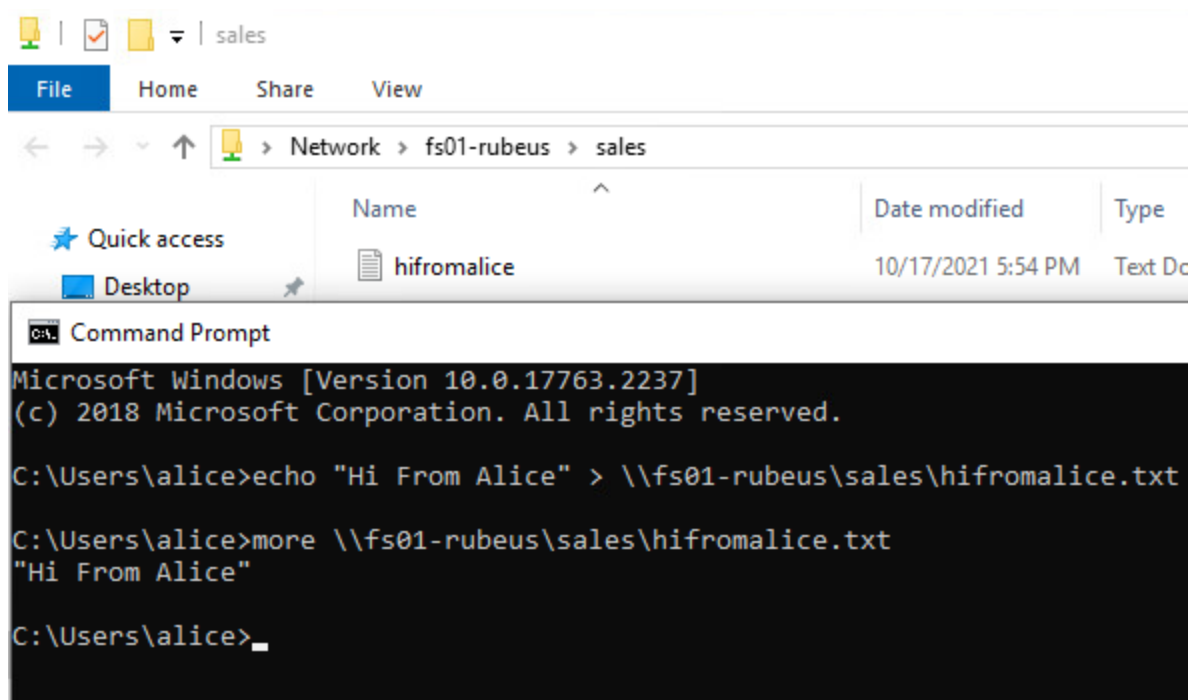
For Customized Permissions, assign the Sales-Users Group created earlier with Full Control Custom Permissions to the share. Remove "Everyone access to the Share".



Test access for Bob and Alice.

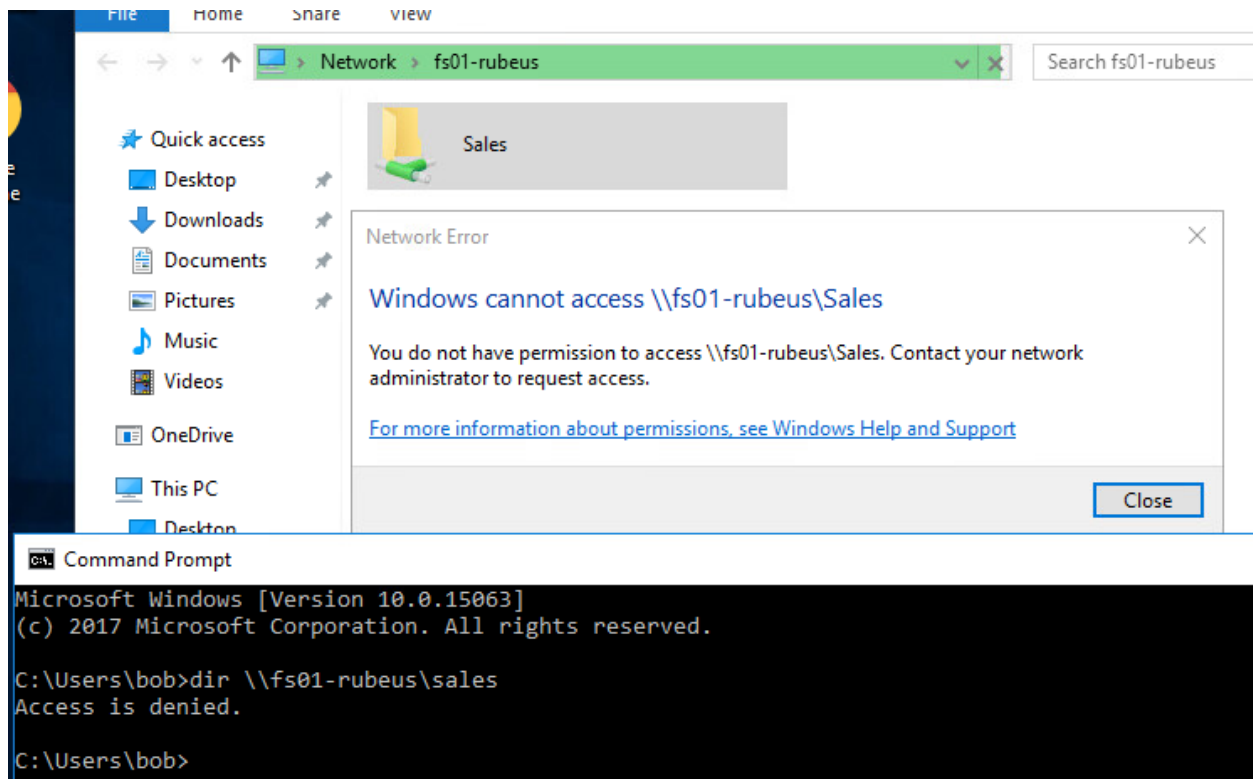
Deliverable 4: Test access to the \\fs01-yourname\Sales while alternately logged into WSK02 as Bob and as Alice. Provide screenshots showing that Alice can write and read from \\fs01\Sales and that Bob cannot.

Alice Can Read and Write:





Bob Cannot Read nor Write:



Deliverable 5. Research and Create a Group Policy to Map the S:\ drive to the \\FS01\Sales share for all users in the the Sales-Users group, and then document this process in your tech-journal.

Provide:

- Screenshot showing your successful gpresults
- Screenshot of the mapped drive
- Link to your tech-journal article exploring some of this lab's topics further