Windows File Share with SMB

Type of Systems: Windows Server 2012/2016/2019
Complete Goal: Create a file share with SMB that is accessible for all on the local network.

Prerequisites: Use the Add Roles and Features wizard to install the File Server role service.

Steps (Server Manager):

1. On the File and Storage Services page, select `Shares` and then click `Tasks -> New Share` … to begin the *New Share Wizard*.
2. On the Select the profile for this share page, select `SMB Share - Quick` and click the `Next` button.
    a. Note that in addition to creating new SMB shares for NTFS folders that are sharing documents, we also have options for creating shared folders for applications, such as SQL databases or Hyper-V virtual machines, as well as creating new NFS shares for non-Windows client devices.
3. On the *Select the server* and path for this share page, select the `server` on which to create the new share (local or remote server) and the `volume` on which to create the new shared folder. Click the `Next` button to continue.
4. On the *Specify* share name page, type the name of your new `Share name` and click the `Next` button to continue.
5. On the *Configure share settings* page, you will find advanced options for configuring Access-Based Enumeration (ABE), Offline folder caching, and Encryption of end-to-end SMB network traffic. Let's select all three options and then click the `Next` button.
    a. NOTE: If BranchCache is enabled on your server to optimize shared folder access over a WAN, you can also enable BranchCache for this new folder on this page.
6. On the *Specify permissions to control access* page, review the default permissions for the new NTFS folder and click the `Customize permissions…` button to further customize these permissions as necessary. When finished, click the `Next` button to continue.
7. On the *Confirm selections* page, review the selected settings for sharing the new folder and click the `Create` button to begin the creating the new folder, applying NTFS permissions, and sharing the folder with the selected share settings.

8. Clients can now access the shared folder by typing the UNC (Universal Naming Convention) path of the shared folder in windows explorer. For example, the UNC path could be `C:\\shares\\nfsfolder`
    a. They can also map the drive by right clicking `network` and mapping the path

Steps (Powershell): For the same configuration as the above steps follow the commands below:

```
MD D:\Shares\Documents
```

```
New-SMBShare -Name Documents -Path D:\Shares\Documents
-FolderEnumerationMode AccessBased
-CachingMode Documents -EncryptData $True -FullAccess
Everyone
```

Note that the path must be a full system path

Viewing Shares
To see the available shares on a given computer:
> Get-SmbShare
You should see the following defaults: IPC$, C$, ADMIN$. These shares should only be accessible by administrators.

Additionally, check the permissions required for connecting to a share with:
> Get-SmbShareAccess <Share name>

If you need to comfigure/view smb remotely, use a Cim session
> New-CimSession -ComputerName <remote server> -OutVariable cim
> Get-SmbShare -CimSession $cim

Connecting from Windows
> New-SmbMapping -LocalPath '<local path>' -RemotePath '//<computer name>/<share
name>
The -LocalPath argument can be an existing directory or a new drive

Connecting from Linux

Enumerate the file shares with
$ smbclient -L <server up> -U <username>@<password>

This requires the smbclient software (cifs-utils on Debian).

```
$ sudo mount -t cifs //<WIN SERVER NAME>/<FILE SHARE NAME>/PATH <local
      system mount path> -o username=<username>,ip=<server ip (if dns
      is not working)>,uid=$(whoami)
# will ask for password
```

If you're adding an entry to /etc/fstab, you can store the credentials in a seperate file in the form:
username=<username>
password=<password>
Then, instead of the username and password argument in mount options, use the credentials option followed by the path to your seperate file.

Relevant Info:

File Transfer: File transfer is a service that is used to move files between computers on a network. On a corporate network, a server typically runs a file transfer server, which provides users with access to the files on that server.
Server Message Block (SMB) (Windows): On the Windows side, SMB is a protocol that supports file shares from a Windows server to Windows or Linux clients. To use SMB, an admin can create a file share within the "File and Storage Services" application on a Windows server.

- Uses port 445
- Supports a number of protocols and services besides fileshare. See the Windows RPC ports for more.

Guide source:
https://blogs.technet.microsoft.com/keithmayer/2012/10/21/12-steps-to-ntfs-shared-folders-in-windows-server-2012/
http://www.mustbegeek.com/setup-shared-folder-in-windows-server-2012/