ITFreeTraining

NTFS Quotas Demonstration

For the free video please see
http://itfreetraining.com/server#/ntfsquotasdemo

This video will look at how to configure NTFS quotas on Windows Server 2012 R2. NTFS Quotas provide basic quota management in Windows. If you want more advanced quota features, you should have a look at Windows Server Resource Manager (FSRM).

Demonstration

Demonstration Windows Server 2012 R2

00:40 Right click on the d drive and select properties.

00:45 From the drive properties, select the tab Quota.

00:50 Tick the tick box "Enable quota management". (This will enable quotas, but users will not be limited to how much disk space they can use until quotas are configured).

01:04 Tick the tick box "Deny disk spaces to users exceeding quota limit". (This tick box essentially enables hard quotas. When the user reaches this limit they will be denied access to write to the drive. If you are implementing quotas for the first time, it is recommended that you leave this tick box cleared and see what the effect of Quotas is having on your system. Once you see the effect Quotas will have, tick the tick boxes. This prevents a large number of users suddenly being locked out of their folders and gives them time to get their data under the quota value before quotas are switched on.)

01:30 By default the option "Do not limit disk usage" will be selected. This effectively prevents quotas from working unless an entry has been configured specifically for that user using "Quota Entries".

01:38 Select the option "Limit Disk space to" and enter the value 100 MB. (This is often referred to as a hard limit. This is the default value, so if no specific value exists for that user they will get this value. When the user reaches this limit, they will be denied access to write to the drive.)

02:10 Set the warning level to 70 MB. (This is also referred to as the soft limit. When

the user reaches this limit they will still be able to write to the drive. NTFS Quotas does not give a warning message to the user when they reach this limit. An administrator can configure one by having an event logged in the event viewer and then setting a trigger on that event. This trigger can run a script that can alert the user using a number of different methods. For example, it could e-mail the user).
(This is all the basic steps that are required in order to enable Quotas to be used.)
02:56 Tick the tick box "Log event when a user exceeds their quota limit". (This will log an event in the event viewer when the user exceeds their hard quota limit.)
03:09 Tick the tick box "Log event when a user exceeds their warning level. (This will log an event in the event viewer when the user goes over the warning level in the quota. If you want to create a manual trigger to alert the user when this occurs, this tick box needs to be ticked.)
(Ticking both log event options means the administrator has access to more data on how often users go over or reach their quota limits. If users are going over their quotas all the time, this may mean that their Quotas need to be increased. This information is useful when the administrator needs to put a case to their management to increase the space on their servers.)
03:36 Press o.k. (This enables quotas using the settings that you configured.)
03:38 Press ok on the Disk Quota warning. (If quotas are being enabled for the first time the drive will need to be scanned. This is required so that Windows can determine how much disk space is being used by each user on the drive. The time taken will be determined by the size of the drive. For large drives you may want to consider doing this outside business hours. It is also possible to enable quotas, not configure it, and perform the scan. Once the scan is complete, you are free to configure quotas anytime you want and you do need to perform the scan again.)
To see the owner of a file perform the following steps.
04:33 Open the d drive, right click a file and select the option properties.
04:40 Select the security tab and press the button advanced.
04:50 At the top of Advanced security settings screen you can see the owner of this file is set to administrators.
04:58 Press the button "change" to change the owner of the file.
05:00 Enter the name doej and press o.k.
05:05 Press o.k. and o.k. again to commit the changes to the owner for that file.
Since the file is over 70 Megabytes in size, this will put the user over the soft quota limit of 70 Megabytes.
05:18 Open Server manager by selecting it from the quick launch bar.
05:21 Select Event Viewer from under the tools menu.
05:28 Expand through "Windows Logs" to open the system log. (The system log will show events that are related to NTFS Quotas.)
05:33 Open the event with Event ID 36.
05:35 The user name is not in the description, however the user can be seen at the bottom of the screen.

05:47 Exit all the Windows and go back to Windows Explorer.

05:53 Right click on the d drive and select the quota tab.

So far default quotas have been created for all users, however it is possible to create a quota entry that applies to one user. If you are working on a drive that has had quotas enabled on it before, it is possible there are quota entries in here from the previous setup. If these are not required they need to be removed. This also applies if you make changes to the default settings for quotas. You may need to remove entries from the quota entries.

06:03 Press the button Quota Entries on the Quota tab.

06:11 Notice at the top there is a warning message for John Doe. This is displayed because John Doe is over his quota.

If you have a user that is over their quota, they will not be able to write to the drive until the amount of space they are using on the drive is reduced. This can be achieved by removing files from the drive or changing the owner of the file. Even though changing the owner of the file will fix the problem, it is not considered best practice. Windows will also not allow the quota entry to be deleted or reduced if the user is over their quota.

07:02 To create a new quota entry, select the Quota menu and then select the option "New Quota Entry". (This is useful if you have a particular user that needs more data than the default will allow.)

Notice that there are two entries, one for the administrators and one for the system user. These entries cannot be deleted. The limit is set to none which gives them unlimited space. If the administrators or system user were to be denied the ability to write to the drive, this could potentially crash the system. You can also create an entry like this for a user if you wanted them not to be effected by Quotas.

Demonstration Windows 8.1

07:58 Open Windows Explorer by selecting it from the quick launch bar. Notice that the z drive, which is mapped to a quota enabled drive, reports that there is 22.1 Megabytes being used of 100 Megabytes. The drive in the server is 100 Gigabytes in size, but reported as 100 Megabytes as that is all the user is allow to use.

08:25 Open the z drive and copy and paste the file, making a duplicate of the file. (An error message will appear saying that the drive is out of space).

08:42 Move the file from the network drive to the desktop and then move it back again. (This will make the drive space used zero and then put it above the soft quota limit of 70 Megabytes. Notice that no indication is given to the user that this has occurred. The way around this is to create a trigger on the event log on the server to send a message to the user when this occurs.)

See http://YouTube.com/ITFreeTraining or http://itfreetraining.com for our always free training videos. This is only one video from the many free courses available on YouTube.

References
"Installing and Configuring Windows Server 2012 R2 Exam Ref 70-410" pg 87-88
"NTFS" http://en.wikipedia.org/wiki/NTFS#Quotas