8.7.3 Quota Facts

This lesson covers the following topics:

- About disk quotas
- Implementing disk quotas
- Disk quotas commands

About Disk Quotas

Disk quotas prevent a user or group from using a disproportionate amount of disk space on a volume.
Quotas can be configured to:

- Limit the number of files and directories a user or group can create.
- Limit the amount of disk space a user or group can use.

Quota types include the following:

- A soft limit allows the user to temporarily exceed a quota limit.
- A hard limit is a fixed limit that the user cannot exceed.

Implementing Disk Quotas

The following table lists the general steps to implement quotas:

Step	Procedure
Install quota package	Use yum, zypper, or apt-get to install the **quota** package on the system where quota limits will be set.
Edit mount options in **/etc/fstab**	Edit the **/etc/fstab** file to add the mount options for the file system to enable quotas: - **usrquota** enables quotas for users. - **grpquota** enables quotas for groups.
Create quota files	Create the **aquota.user** and **aquota.group** files in the directory where the partition is mounted.
Enable quotas and view a quota report	Enable disk quotas and then generate a disk usage and quota report. The report shows: - How much space to allocate to each user. - How much space is currently consumed by each user. - Whether some users are using a significant amount of disk space.
Edit quotas	Edit a quota for the specified user or group. Be aware of the following when editing quotas: - Set the soft and hard quotas for blocks. This limits the total amount of disk space per user or group. - Set the hard and soft quotas for inodes. This limits the total number of files and directories per user or group. - Users may exceed soft quotas for a number of days specified in the grace period (seven by default). When the grace period expires, users cannot create additional files. - Users cannot exceed hard quotas. - When setting block quotas, 1000 blocks is about 1 MB, and 1,000,000 blocks is about 1 GB. - Setting the quota limits to 0 removes all quotas.

Disk Quotas Commands

The table below describes common commands for working with quotas:

Command	Function	Examples
quotacheck -mavug	To create the **aquota.user** and **aquota.group** files in the file system (after placing the quota entries in **/etc/fstab**). Common options include: - **-m** updates the quota database even if other processes are running on the file system. - **-a** updates the quota database. - **-v** runs the command in verbose mode. - **-u** and **-g** run the database updates for users and groups, respectively.	**quotacheck -mavug /home** creates the **aquota.user** and **aquota.group** files in the root (/) directory.

quotaon	Enables quotas for the mounted file system as follows: • **-a** enables all mounted file systems listed in **/etc/mtab**. • **-v** runs the command in verbose mode.	**quotaon -av /** enables quotas for the root (/) directory.
quotaoff	Disables quotas for the mounted file system.	**quotaoff /home** disables quotas for the **/home** directory.
repquota	Displays a summary of the disc usage and quotas for the specified file systems, including the specific number of files and used space by user. Common options include: • **-v** reports all quotas, even if there is no usage. • **-n** does not resolve user and group names to speed printing time. • **-u** and **-g** report for users and groups, respectively. • **-a** gives information for all file systems listed in **/etc/mtab**.	**repquota /home -uv** creates a user quota report for the **/home** directory.
edquota	Opens and edit a user's quota, a group's quota, or change the grace period: • **-u** changes the user's quota. • **-g** changes a group's quota. • **-t** changes the grace period.	**edquota -u mtomm** opens the quota file for the mtomm user account.
quota	Displays the current user's quota: • **-u** shows the quota for a user. • **-g** shows the quota for a group. • **-v** shows current the current usage, the hard quota and the soft quota for blocks and inodes.	**quota** displays the quota report only for the current user account. **quota -u dhanson** displays the quota report only for the dhanson user account.