

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: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• How much space to allocate to each user.• How much space is currently consumed by each user.

	<ul style="list-style-type: none"> Whether some users are using a significant amount of disk space.
Edit quotas	<p>Edit a quota for the specified user or group. Be aware of the following when editing quotas:</p> <ul style="list-style-type: none"> 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	<p>To create the aquota.user and aquota.group files in the file system (after placing the quota entries in /etc/fstab). Common options include:</p> <ul style="list-style-type: none"> -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. 	<p>quotacheck -mavug /home creates the aquota.user and aquota.group files in the root (/) directory.</p>
quotaon	<p>Enables quotas for the mounted file system as follows:</p> <ul style="list-style-type: none"> -a enables all mounted file systems listed in /etc/mtab. -v runs the command in verbose mode. 	<p>quotaon -av / enables quotas for the root (/) directory.</p>
quotaoff	<p>Disables quotas for the mounted file system.</p>	<p>quotaoff /home disables quotas for the /home directory.</p>

repquota	<p>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:</p> <ul style="list-style-type: none"> • -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	<p>Opens and edit a user's quota, a group's quota, or change the grace period:</p> <ul style="list-style-type: none"> • -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	<p>Displays the current user's quota:</p> <ul style="list-style-type: none"> • -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. 	<p>quota displays the quota report only for the current user account.</p> <p>quota -u dhanson displays the quota report only for the dhanson user account.</p>

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