

cron

- ? Cron is a tool used to automate tasks.
- ? Linux uses "Vixie-cron" based on the 1970s UNIX cron.
- ? called crond on Red Hat systems
- ? cron's configuration file is called "crontab"

cron 's uses

- ? Remove junk files from the system.
- ? Reload mail aliases
- ? Reset/Rotate log files
- ? Synchronize databases
- ? Checking network resources

crontab

- ? crontab is located in three places:
 - /var/spool/cron
 - ? contains user's crontabs
 - ? based on username
 - /etc/cron.d
 - ? typically used by software installations
 - /etc/crontab
 - ? maintained by system administrator

how cron works

- ? Cron reads all its config files into memory then sleeps.
- ? Every minute cron wakes
 - checks for updates to its config files
 - reloads updated files
 - executes any tasks scheduled for that minute.
- ? Output of cron is emailed to the owner of the crontab

how cron works

- ? cron does not compensate for commands missed
 - while the system is down
 - due to time changes greater than 3 hours (anacron does this)
- ? For time changes less than 3 hours cron
 - will run any commands skipped by the time change
 - will not re-run any commands repeated by the time change

crontab fields

? min hr day month wday [usr] cmd

- minute [0-59]

- hour [0-23]

- day [1-31]

- month [1-12]

- weekday [0-6] (0=Sunday)

crontab format

- ? Comment lines start with #
- ? Fields are separated by whitespace
 - whitespace is taken literally in the command field
- ? The command should not be quoted
- ? The username is only found in /etc/crontab and /etc/cron.d and tells cron which user to run the command as

crontab format

? time fields can be

- a star which matches everything
- a single integer which matches exactly
- two integers separated by a dash, matches a range
- a comma-separated series of integers or ranges matching any listed value.
- a range divided by a number provides steps

? 0,3,6,9,12,15,18,21 can be written 0-21/3

? 0-55/5 8-17 * 1,3,8 5 /usr/bin/sync

crontab format

- ? If day and weekday are both specified, then the command is run on that day of the month AND that day of the week.
- ? `0,30 * 13 * 5 /usr/bin/updatedb`
 - Every half-hour on Friday and every half-hour on the 13th update the locate database

crontab format

- ? % is used to indicate newlines in the command
 - 1st line is the command
 - 2nd line is standard input to the command
- ? 30 12 * * 1-5 write melee % Lunchtime
 - Remind user melee that it is lunchtime at 12:30 every Monday through Friday

crontab command

? crontab

- Command to modify a users crontab

- Flags

- ? -e checks out a copy of the user's crontab and invokes your editor on it, then resubmits it to the crontab directory

- ? -l lists the contents of the user's crontab

- ? -r removes the user's crontab

- ? -u specifies a username (root only)

cron access

- ? Access to Cron can be determined by `/etc/cron.deny` and `/etc/cron.allow`.
 - If `/etc/cron.allow` exists, then only people specified in the file can access cron.
 - Otherwise `/etc/cron.deny` is checked to see who cannot access cron.