Linux Academy
Course Notes

System Utilities

Contents

Video One: du, df and mount

- **`du`** • Display file and directory sizes on disk; by default, displays directory size totals in full numeric notation
  - **`-h`** • Human-readable format
  - **`-s`** • Summary of current directory size
  - **`-a`** • All files and directories
  - **`--exclude=dirname`** • Excludes the size of the file totals in the indicated directory
- **`df`** • File system disk space usage; displays mounted, non-special file systems and their mounts, device free and used space
  - **`-h`** • Human-readable format
  - **`-a`** • All, including special file systems
- **`mount`** • Mounts external or internal file systems
  - **`-t`** • File system type
  - **`-a`** • All
  - Configure file systems in `/etc/fstab`
    - Example: `/dev/sdb1 /mnt/tmp ext4 defaults 0 0`
- **`umount`** • Unmount file system
  - **`-f`** • Force

Video Two: fsck and e2fsck

- **`fsck`** • Check and repair file systems; can only be used by unmounted systems and run by root/superusers
  - **`-a`** • Auto-repair
- **`e2fsck`** • Check and repair EXT2/3/4 file systems; otherwise, works as `fsck`

Video Three: mke2fs and debugfs

- **`mke2fs`** • Make file system
  - **`-t`** • Define type of file system

- **`-U`** • Assign UUID
- **`-I`** • Inode size
- **`-M`** • Last mounted directory
- **`-L`** • Set label
- **`-l`** • Display label

- **`debugfs`** • EXT2/3/4 system debugger; interactive shell; file system must be unmounted
  - **`-w`** • Write mode
  - **`-C`** • Catastrophic mode for assessing and repairing damage

Video Four: dumpe2fs and tune2fs

- **`dumpe2fs`** • Dump EXT2/3/4 file system information; must be run as root or superuser, system must be unmounted
- **Binary library compatibility** • Underlying binary system libraries are shared with `debugfs` so detail information matches exactly
- **`tune2fs`** • Adjust tunable parameters on file systems
  - **`-c`** • Maximum times a device can be mounted before reboot causes file system check
  - **`-C`** • Sets the amount of mount times
  - **`-L`** • Set label
  - **`-l`** • Display label
  - **`-U`** • Generate and display UUID
  - **`-i`** • Set interval between file system checks

Video Five: XFS Tools

- To install:
  - Debian-based: `sudo apt-get xfsprogs xfsdump`
  - Red Hat-based: `sudo yum install xfsprogs xfsdump`
  - Installed in `/usr/sbin`
  - Run: `cat /proc/filesystems | grep xfs` to ensure the kernel module is loaded

- **`xfs_check`** • Check XFS file system integrity
  - **`-v`** • Verbose; gives all inode information
- **`xfsdump`** • Dump XFS parameters to log or terminal
  - **`-J`** • Backup file system journal
- **`xfs_admin`** • Change parameters of the XFS file system
  - **`-L`** • Set label
  - **`-l`** • View label
  - **`-U`** • Display UUID