fstab Configuration

LPIC-2: Linux Engineer (201-450)

Objectives:

At the end of this episode, I will be able to:

1. Describe the structure of the fstab file system table configuration.
2. Configure a partition or volume to persistently mount by modifying the fstab file.

> Additional resources used during the episode can be obtained using the download link on the overview episode.

- The file system table
  - `/etc/fstab`
  - Simple text definition of which volumes to mount at boot time
  - Easy to edit and invoke
  - Has been around a long time
- Required information
  - Desired mount point location
    - Folder must exist prior to mounting
  - File system type
    - ext4, xfs, etc
  - Drive identifier
    - Device Name (e.g. /dev/sda1)
    - Device Label (e.g. Storage)
    - Device UUID (e.g. 7e131497-d38d-4606-8fec-2c8bb9f2e26b)
  - Obtaining drive data
    - `lsblk -f`
    - `blkid`
- Universally Unique Identifiers (UUID)
  - Unique
    - Device names and labels are often duplicated
  - Assigned to a volume when formatted.
  - Allows identifying the volume even if it moves between systems.
- Modifying `/etc/fstab`
  - `sudoedit`
  - `fstab` fields
    1. Device ID
       - /dev/sda1
       - LABEL=Storage
       - UUID=7e131497-d38d-4606-8fec-2c8bb9f2e26b
    2. Desired mount point

        - /mnt/storage
    3. File system type
        - ext4
        - xfs
        - auto
    4. Custom options
        - defaults
        - ro - Read only
        - user - Allow users to mount
        - nofail - Do not stop if device is missing
    5. dump configuration
        - 0 - do not dump
        - 1 - dump
    6. File system check
        - 0 - Don't check
        - 1 - Root file system (check first)
        - 2 - Other file system (check second)

- fstab Errors
    - Failure to boot
    - Failure to mount
    - Disk corruption
    - Mounted read only
- Testing the fstab file
    - `sudo mount -a`