Process Management

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ps (Display Process Status)

- ps is a command-line utility used to display information about currently running processes.

- Basic Syntax: ps [options]

- **Common Options:**
  - -e: Display information about all processes.
  - -f: Display full-format listing.
  - -u <user>: Display processes owned by a specific user.
  - -aux: Display a comprehensive list of all processes.

- **Examples:**
  - Display all processes: ps -e
  - Display detailed information: ps -f
  - Show processes owned by a user: ps -u username

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Kill (Terminate Processes)

- Used to terminate processes by sending signals to them.

- Basic Syntax: kill [options] <pid>

- **Common Options:**
  - -9: Send SIGKILL signal, forcefully terminating the process.
  - -15: Send SIGTERM signal, allowing the process to exit gracefully.
  - -l: List available signal names.

- **Examples:**
  - Terminate a process gracefully: kill -15 <pid>
  - Forcefully terminate a process: kill -9 <pid>
  - List available signal names: kill -l

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Top (Monitor System Processes)

- an interactive command-line utility used to monitor system processes in real-time.

- Basic Syntax : top [options]

- **Common Options:**
  - -d <seconds>: Specify the refresh interval.
  - -u <user>: Display processes owned by a specific user.
  - -p <pid>: Monitor specific process IDs.
  - -o <field>: Sort processes based on a specific field.

- **Examples:**
  - Monitor processes with a 1-second refresh interval: top -d 1
  - Display processes owned by a specific user: top -u username
  - Sort processes by CPU usage: top -o %CPU

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Nice (Set Process Priority)

- Used to set the scheduling priority of processes in Linux.

- Basic Syntax: nice [options] <command>

- **Common Options:**
    - -n <value>: Set the niceness value, ranging from -20 (highest priority) to 19 (lowest priority).
    - -20: Highest priority, increases CPU scheduling priority.
    - +19: Lowest priority, decreases CPU scheduling priority.

- **Examples:**
    - Run a command with increased priority: nice -n -10 command
    - Run a command with decreased priority: nice -n 10 command
    - Display current niceness value: nice -n

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