10.1.9 Process Display Facts

This lesson covers the following topics:

- Viewing processes using top
- Viewing processes using ps
- Viewing processes using pgrep

Viewing Processes Using top

The top command displays the activity of your Linux processor and also displays tasks managed by kernel in real-time.

Command	Description	Example
top	The **top** command: • Returns Process ID (PID), uptime, load, CPU status, memory, and priority information for processes. • Is useful in situations where you need to continuously monitor processes. When using **top**, press: • **h** to display the help screen. • **f** to add or remove columns from the chart. • **F** to show a list of sortable columns, then press the key of the letter next to the column to be sorted. • **u** to specify processes for a specific user. You can use the **-u** option with top to display only those processes owned by a particular user.	**top -u gshant** starts top by monitoring only the gshant user.

Viewing Processes Using ps

The ps command is used to provide information about the currently running processes, including their process identification numbers (PIDs).

Command	Description	Exmple
ps	Displays a snapshot of currently running processes in ascending order based on the PID. By default, the **ps** command displays the following information:	**ps -Au jsmith** shows all processes owned by the user jsmith.

	• PID
	• Name of the shell session where the process is running (TTY)
	• CPU time the process has used (TIME)
	• The command used to invoke the process (CMD)
	
	Be aware of the following **ps** options:
	
	• **-A, e** shows all processes.
	• **-a** shows processes owned by other users and attached to a terminal (e.g., foreground processes).
	• **-f** shows detailed information for processes.
	• **-u** shows processes by user ID.
	• **-l** shows the processes in long format, and the process *state* (under the STAT column). The process states include:
	  ◦ sleeping (S)
	  ◦ running (r)
	  ◦ traced (t) by another process
	  ◦ zombie (Z)
	• **-x** shows processes that are not attached to a terminal. Use this option to view daemon processes that begin during system boot.
		ps -elf shows detailed information about all processes in long format.
		ps aux shows detailed information about all processes.

Viewing Processes Using pgrep

The pgrep command combines the functionality of the ps command and the grep command into one single command or utility. When you run pgrep, you can specify certain selection criteria that you want the command to look for. The command then searches through all the current running processes, and then outputs a list of only those processes that match the criteria that you specify.

Command	Description	Example
pgrep	The pgrep command includes many options. The following are a few of the more useful options: • **-f** searches for a specific process name. • **-p** only match processes whose parent process ID is listed. • **-u** only match processes whose effective user ID is listed (the user that owns the process).	**pgrep -l -u jsmith** show all the process owend by jsmith (-u) in long (-l) format.