SYSTEM STATISTICS

**SAR**

* It is used to monitor various Linux subsystems like CPU, memory, I/O, swap, network statistics, load average etc in real time. it is a part of sysstat package.
* It stores logs of SAR in **/var/log/sa** dir for each day.
* Main configuration file = **/etc/sysconfig/sysstat.**
* In the main config file, you have to mention how many days the sar logs should store. If you mention more than 28 days. It will create separate dir for each month and store logs in that dir.
* You can mention, to compress the logs after certain days with specific compression tool.
* **sar -u** = it will show the CPU report of current date (or) day.
* **sar -u ALL** = it will show the CPU report of current date with all the fields.
* **sar -u 1 2** = it prints CPU report of every second for 2 times. You can mention any number to print the CPU usage for any number of times.
* **sar -P ALL** = If your server have multiple CPU'S. It will show all the CPU’s usage. You can mention number in the place of ALL to see only that specific CPU usage.
* **sar -f /var/log/sa/sa22** = To see CPU usage of that specific date.
* **sar -r** = to see ram usage of current day.
* **sar -r -f /var/log/sa/sa11** = To see ram usage of that specific day.
* **sar -S** = to see swap usage of current day.
* **sar -S -f /var/log/sa/sa13** = To see swap usage of that specific day.
* **sar -W** = To see swap statistics (in/out) per second.
* **sar -q** = To see run queue and load average.
* **sar -q -f /var/log/sa/sa13** = To see run queue and load avg of specific day.
* **sar -b** = To see overall i/o statistics.
* **sar -d** = To see individual block device i/o activities.
* **sar -u -s 08:00:00** = To see CPU usage in that specific time in current date.
* **sar -f /var/log/sa/sa13 -s 09:00:30** = To see CPU usage in that specific time in that date.
* **sar -A** = To see CPU, ram, swap, i/o output all at once.
* **sar -u > filename** = To save the output of sar to a file.

**VMSTAT**

* It displays virtual memory statistics. By default, it displays memory usage along with swap usage.
* **vmstat -V** = Displays vmstat version.
* **vmstat** = it displays virtual memory usage (swap) with CPU info in record format.
* **vmstat -a** = it displays virtual memory (swap) with active and inactive memory and CPU.
* **vmstat -f** = it displays all forks calls made from last boot. (Fork calls are to create process, it takes no arguments and gives PID and it acts as child process of its caller).
* **vmstat 2** = it executes cmd every 2 sec.
* **vmstat 2 5** = it executes cmd every 2 sec for 5 times.
* **vmstat -s** = It displays statistics in table format.
* **vmstat -d** = Displays all disk statistics.
* **vmstat -S M** = Displays statistics in MB.
* **vmstat -w** = It increases the width of output.
* **vmstat -p /dev/sda1** = Displays I/O statistics for specific partition.
* **vmstat -w > file** = It save the output of that cmd in mentioned file.

**IOSTAT**

* It displays CPU statistics and disk input and output statistics.
* **/etc/sysconfig/sysstat** = main config file.
* It reads the data from **/proc/cpuinfo** and **/proc/diskstats**.
* **iostat –V** = It displays iostat version.
* **iostat** = It shows system cpu usage and all disk statistics.
* **iostat –c =** It shows only cpu statistics**.**
* **iostat –d =** It shows only disk statistics**.**
* **iostat –n** = It shows network statistics.
* **iostat –N** = It shows lvm statistics.
* **iostat –t** = It shows usage along with timestamp.
* **iostat –p /dev/sda** = It shows only specific disk statistics.
* **iostat 2** = displays statistics for every 2 seconds.
* **iostat 2 4** = displays statistics for every 2 sec for 4 times.
* **iostat –m =** displays statistics in MB.