



Artificial Intelligence and Data Science Department.

OS / Even Sem 2021-22 / Experiment 2.

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EXPERIMENT - 2.

Shell Script

Aim:

Learning to write and execute Shell Scripts in Unix interactive environment.

Theory:

- 1) `top` | `head` → is used to show linux processes provides real time view of running processes
n-15 is to display top 10 processes.
- 2) `top -o %MEM` | `head -n 8` - used to display the process with highest memory usage.
- 3) `whoami` - used to display the user logged in user and the log name.

Snippets:

```
(kali@kali)-[~/Desktop/Example/Assignment]
```

```
$ cat assignment2.sh
```

```
echo "1st"
```

```
top | head -n 15
```

```
echo "2nd"
```

```
top -o %MEM | head -n 8
```

```
echo "3rd"
```

```
whoami
```

```
(kali@kali)-[~/Desktop/Example/Assignment]
```

```
$ sh assignment2.sh
```

```
1st
```

```
top - 12:47:18 up 15 min, 1 user, load average: 0.19, 0.09, 0.09
Tasks: 196 total, 1 running, 194 sleeping, 1 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 1974.2 total, 989.5 free, 558.6 used, 426.1 buff/cache
MiB Swap: 975.0 total, 975.0 free, 0.0 used. 1257.0 avail Mem
```

| PID | USER | PR | NI | VIRT | RES | SHR | S | %CPU | %MEM | TIME+ | COMMAND |
|-----|------|----|-----|--------|-------|------|---|------|------|---------|-----------------------------|
| 1 | root | 20 | 0 | 164304 | 10564 | 7972 | S | 0.0 | 0.5 | 0:00.85 | systemd |
| 2 | root | 20 | 0 | 0 | 0 | 0 | S | 0.0 | 0.0 | 0:00.00 | kthreadd |
| 3 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | rcu_gp |
| 4 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | rcu_par_gp |
| 6 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | kworker/0:0H-events_highpri |
| 8 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | mm_percpu_wq |
| 9 | root | 20 | 0 | 0 | 0 | 0 | S | 0.0 | 0.0 | 0:00.00 | rcu_tasks_rude_ |
| 10 | root | 20 | 0 | 0 | 0 | 0 | S | 0.0 | 0.0 | 0:00.00 | rcu_tasks_trace |

```
2nd
```

```
top - 12:47:21 up 15 min, 1 user, load average: 0.25, 0.11, 0.09
Tasks: 196 total, 1 running, 194 sleeping, 1 stopped, 0 zombie
%Cpu(s): 3.2 us, 0.0 sy, 0.0 ni, 96.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 1974.2 total, 985.5 free, 562.3 used, 426.4 buff/cache
MiB Swap: 975.0 total, 975.0 free, 0.0 used. 1253.2 avail Mem
```

| PID | USER | PR | NI | VIRT | RES | SHR | S | %CPU | %MEM | TIME+ | COMMAND |
|-----|------|----|----|--------|--------|-------|---|------|------|---------|---------|
| 629 | root | 20 | 0 | 377700 | 119004 | 51688 | S | 0.0 | 5.9 | 0:05.91 | Xorg |

```
3rd
```

```
kali
```

Conclusion:-

Thus we have learned to implement shell scripts in Unix.
