



LNJN National Institute Of Criminology
And Forensic Science
NATIONAL FORENSICS SCIENCE UNIVERSITY



PYTHON AND SCRIPTING

SUBJECT CODE: CTMSDFIS S1 P4

SUBMITTED BY

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ROLL NO. -

M.SC. DIGITAL FORENSICS AND INFORMATION SECURITY

LAB 03

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AIM: To study basics bash based commands.

SOFTWARE REQUIRED: UBUNTU OS.

INTRODUCTION: Ubuntu is a Linux distribution based on Debian and composed mostly of free and open-source software. Ubuntu is officially released in three editions: Desktop, Server, and Core for Internet of things devices and robots. All the editions can run on the computer alone, or in a virtual machine.

“Bash is a Unix shell and command language written by Brian Fox for the GNU Project as a free software replacement for the Bourne shell. First released in 1989, it has been used as the default login shell for most Linux distributions. Bash was one of the first programs Linus Torvalds ported to Linux, alongside GCC.”

UBUNTU COMMANDS

- **Introduction:**

```
root@kali:~# Name=ShubhangGupta
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 06:06:35 AM EDT
root@kali:~#
```

- **Create a file using VI**

```
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 05:58:01 AM EDT
root@kali:~# vi number.txt
root@kali:~# cat number.txt
1
10
5
2
root@kali:~#
```

- **Pipe and Pipelining**

```
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 06:09:22 AM EDT
root@kali:~# sort -n number.txt | head -6
1
2
5
10
root@kali:~#
```

- **I/O Redirection**

```
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 06:24:45 AM EDT
root@kali:~# wc -l *.txt | sort -n
1 hash.txt
5 number.txt
23 config-downloaded.txt
80 dvwa-data.txt
627 wordlist.txt
15626 wpaHandshake.txt
16362 total
root@kali:~#
```

```

root@kali:~# echo $Name $(date) Restore previous session
ShubhangGupta Thu 08 Sep 2022 06:44:32 AM EDT
root@kali:~# cat number.txt > out.txt
root@kali:~# cat out.txt
1
10
5
2

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 06:47:14 AM EDT
root@kali:~# ls -la >> out.txt
root@kali:~# cat out.txt
1
10
5
2

total 53516
drwx----- 48 root root    4096 Sep  8 06:44 .
drwxr-xr-x 19 root root    4096 Oct  9 2020 ..
-rw-r--r--  1 root root   13628 Jun  9 2021 ajpShooter.py
-rw-r--r--  1 root root    27 Jun 17 2021 alert.js
drwxr-x---  2 root root    4096 Aug  8 2020 .android
-rw-r--r--  1 root root   187 Jun 18 2021 apibrute.py
drwxr-xr-x  2 root root    4096 Dec 17 2021 .aws
drwxr-xr-x  3 root root    4096 Dec  9 2021 aws - your default browser
-rw-r--r--  1 root root 45514961 Dec 17 2021 awscliv2.zip
-rw-----  1 root root   13962 Sep  8 06:08 .bash_history browser
-rw-r--r--  1 root root    591 Jul 10 2021 .bashrc
-rw-r--r--  1 root root   2009 Jul  5 2021 bettercap.history
drwxr-xr-x  2 root root    4096 Mar 18 2021 .bully
drwxr-xr-x  3 root root    4096 Jul 31 2020 .bundle
drwx-----  7 root root    4096 Sep 14 2021 .BurpSuite
drwx----- 21 root root    4096 Sep  8 05:54 .cache - recently used order
drwxr-xr-x  3 root root    4096 Jul 10 2021 .cargo
drwxr-xr-x 23 root root    4096 Jun 23 11:07 .config - windows
-rw-r--r--  1 root root    576 Aug 17 2020 config-downloaded.txt
-rw-r--r--  1 root root    490 Aug 15 2020 CSRF.html - should not be immediately
drwx-----  3 root root    4096 Jun  8 2020 .dbus
drwxr-xr-x  2 root root    4096 Apr 30 05:08 Desktop
-rw-r--r--  1 root root    55 Jun 10 2020 .dmrc - Docker Manager requires Container Tabs
drwxr-xr-x  6 root root    4096 Apr 30 09:41 Documents
drwxr-xr-x  9 root root    4096 Apr 30 09:48 Downloads
-rw-r--r--  1 root root   3312 Aug 17 2020 dvwa-data.txt
-rw-r--r--  1 root root   11656 Jun  8 2020 .face
lrwxrwxrwx  1 root root    4096 Jun  8 2020 .face.icon -> /root/.face
drwxr-xr-x  2 root root    4096 Aug 15 2020 Fatrat_Generated
-rw-r--r--  1 root root 7245381 Nov 13 2015 fsociety.dic
-rw-r--r--  1 root root    58 Jul 17 2021 .gdbinit
drwxr-xr-x  7 root root    4096 Jul 17 2021 gef - python
-rw-r--r--  1 root root 376748 Jul 17 2021 .gef-e95b072f5684857ffd3d3c95c3369f83cdba0dee.py
drwxr-xr-x  3 root root    4096 Jul 31 2020 .gem
drwxr-x---  3 root root    4096 Jul 17 2021 .ghidra

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 07:11:40 AM EDT
root@kali:~# cd /root/
root@kali:~# error
bash: error: command not found
root@kali:~# cd /root/ 2>errorfile
root@kali:~# hostname >> errorfile 2>&1
root@kali:~# cat < errorfile
kali
root@kali:~# cat < number.txt
1
10
5
2
root@kali:~#

```

- Expansion

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 07:13:53 AM EDT
root@kali:~# echo {3..9}
3 4 5 6 7 8 9
root@kali:~# echo {a..z}{a..z}
aa ab ac ad ae af ag ah ai aj ak al am an ao ap aq ar as at au av aw ax ay az ba bb bc bd be bf bg bh
bi bj bk bl bm bn bo bp bq br bs bt bu bv bw bx by bz ca cb cc cd ce cf cg ch ci cj ck cl cm cn co cp
cq cr cs ct cu cv cw cx cy cz da db dc dd de df dg dh di dj dk dl dm dn do dp dq dr ds dt du dv dw dx
dy dz ea eb ec ed ee ef eg eh ei ej ek el em en eo ep eq er es et eu ev ew ex ey ez fa fb fc fd fe ff
fg fh fi fj fk fl fm fn fo fp fq fr fs ft fu fv fw fx fy fz ga gb gc gd ge gf gg gh gi gj gk gl gm gn
go gp gq gr gs gt gu gv gw gx gy gz ha hb hc hd he hf hg hh hi hj hk hl hm hn ho hp hq hr hs ht hu hv
hw hx hy hz ia ib ic id ie if ig ih ii ij ik il im in io ip iq ir is it iu iv iw ix iy iz ja jb jc jd
je jf jg jh ji jj jk jl jm jn jo jp jq jr js jt ju jv jw jx jy jz ka kb kc kd ke kf kg kh ki kj kk kl
km kn ko kp kq kr ks kt ku kv kw kx ky kz la lb lc ld le lf lg lh li lj lk ll lm ln lo lp lq lr ls lt
lu lv lw lx ly lz ma mb mc md me mf mg mh mi mj mk ml mm mn mo mp mq mr ms mt mu mv mw mx my mz na nb
nc nd ne nf ng nh ni nj nk nl nm nn no np nq nr ns nt nu nv nw nx ny nz oa ob oc od oe of og oh oi oj
ok ol om on oo op oq or os ot ou ov ow ox oy oz pa pb pc pd pe pf pg ph pi pj pk pl pm pn po pp pq pr
ps pt pu pv pw px py pz qa qb qc qd qe qf qg qh qi qj qk ql qm qn qo qp qq qr qs qt qu qv qw qx qy qz
ra rb rc rd re rf rg rh ri rj rk rl rm rn ro rp rq rr rs rt ru rv rw rx ry rz sa sb sc sd se sf sg sh
sl sj sk sl sm sn so sp sq sr ss st su sv sw sx sy sz ta tb tc td te tf tg th ti tj tk tl tm tn to tp
tq tr ts tt tu tv tw tx ty tz ua ub uc ud ue uf ug uh ui uj uk ul um un uo up uq ur us ut uu uv uw ux
uy uz va vb vc vd ve vf vg vh vi vj vk vl vm vn vo vp vq vr vs vt vu vv vw vx vy vz wa wb wc wd we wf
wg wh wi wj wk wl wm wn wo wp wq wr ws wt wu ww wx wy wz xa xb xc xd xe xf xg xh xi xj xk xl xm xn
xo xp xq xr xs xt xu xv xw xx xy xz ya yb yc yd ye yf yg yh yi yj yk yl ym yn yo yp yq yr ys yt yu yv
yw yx yy yz za zb zc zd ze zf zg zh zi zj zk zl zm zn zo zp zq zr zs zt zu zv zw zx zy zz
root@kali:~#

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 07:14:58 AM EDT
root@kali:~# N=ajay
root@kali:~# echo hello "${N}"
hello ajay
root@kali:~#

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 07:15:56 AM EDT
root@kali:~# echo /bin/*grep
/bin/bzegrep /bin/bzfgrep /bin/bzgrep /bin/egrep /bin/fgrep /bin/grep /bin/lzegrep /bin/lzfgrep /bin/l
zgrep /bin/ngrep /bin/pgrep /bin/ptargrep /bin/rgrep /bin/xzegrep /bin/xzfgrep /bin/xzgrep /bin/zegrep
/bin/zfgrep /bin/zgrep /bin/zipgrep
root@kali:~#

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 01:51:03 PM EDT
root@kali:~# echo some/longer/path{one,two,three}
some/longer/pathone some/longer/pathtwo some/longer/paththree
root@kali:~#

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 01:52:26 PM EDT
root@kali:~# mkdir -p ~/hello/{1..4}
root@kali:~# ls
ajpShooter.py      errorfile          newfsociety.dic   Videos
alert.js           Fatrat_Generated  number.txt        wep.cap
apibruite.py       fsociety.dic      out.txt           wordlist.txt
aws               gef               panel.request     wpa.cap
awsciv2.zip        google_ctf.gpr    Pictures          wpa_handshake-01.cap
bettercap.history  google_ctf.rep    Public            wpa_handshake-01.csv
config-downloaded.txt hash.txt          spoof.cap         wpa_handshake-01.kismet.csv
CSRF.html          hello             stash.sqlite      wpa_handshake-01.kismet.netxml
Desktop            isecurityorgGraph.mtg1 Templates          wpa_handshake-01.log.csv
Documents          knock             uploads           wpaHandshake.txt
Downloads          mana              user
dvwa-data.txt      Music             Veil
root@kali:~# cd hello/ && ls -la
total 24
drwxr-xr-x  6 root root 4096 Sep  8 13:52 .
drwx----- 49 root root 4096 Sep  8 13:52 ..
drwxr-xr-x  2 root root 4096 Sep  8 13:52 1
drwxr-xr-x  2 root root 4096 Sep  8 13:52 2
drwxr-xr-x  2 root root 4096 Sep  8 13:52 3
drwxr-xr-x  2 root root 4096 Sep  8 13:52 4
root@kali:~/hello#

```



```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 02:01:27 PM EDT
root@kali:~# mkdir -p ~/logs/{jan/{1..31},feb/{1..31}}
root@kali:~# ls
ajpShooter.py      errorfile          Music              Veil
alert.js           Fatrat_Generated  newfsociety.dic   Videos
apibrute.py        fsociety.dic      number.txt        wep.cap
aws               gef               out.txt           wordlist.txt
awsciv2.zip        google_ctf.gpr    panel.request     wpa.cap
bettercap.history  google_ctf.rep    Pictures          wpa_handshake-01.cap
config-downloaded.txt hash.txt          Public            wpa_handshake-01.csv
CSRF.html          hello             spoof.cap         wpa_handshake-01.kismet.csv
Desktop            isecurityorgGraph.mtg1 stash.sqlite       wpa_handshake-01.kismet.netxml
Documents          knock             Templates         wpa_handshake-01.log.csv
Downloads          logs              uploads           wpaHandshake.txt
dwa-data.txt       mana              user
root@kali:~# cd logs/
feb/ jan/
root@kali:~# cd logs/jan/ && ls -la
total 132
drwxr-xr-x 33 root root 4096 Sep  8 14:01 .
drwxr-xr-x  4 root root 4096 Sep  8 14:01 ..
drwxr-xr-x  2 root root 4096 Sep  8 14:01 1
drwxr-xr-x  2 root root 4096 Sep  8 14:01 10
drwxr-xr-x  2 root root 4096 Sep  8 14:01 11
drwxr-xr-x  2 root root 4096 Sep  8 14:01 12
drwxr-xr-x  2 root root 4096 Sep  8 14:01 13
drwxr-xr-x  2 root root 4096 Sep  8 14:01 14
drwxr-xr-x  2 root root 4096 Sep  8 14:01 15
drwxr-xr-x  2 root root 4096 Sep  8 14:01 16
drwxr-xr-x  2 root root 4096 Sep  8 14:01 17
drwxr-xr-x  2 root root 4096 Sep  8 14:01 18
drwxr-xr-x  2 root root 4096 Sep  8 14:01 19
drwxr-xr-x  2 root root 4096 Sep  8 14:01 2
drwxr-xr-x  2 root root 4096 Sep  8 14:01 20
drwxr-xr-x  2 root root 4096 Sep  8 14:01 21
drwxr-xr-x  2 root root 4096 Sep  8 14:01 22
drwxr-xr-x  2 root root 4096 Sep  8 14:01 23
drwxr-xr-x  2 root root 4096 Sep  8 14:01 24
drwxr-xr-x  2 root root 4096 Sep  8 14:01 25
drwxr-xr-x  2 root root 4096 Sep  8 14:01 26
drwxr-xr-x  2 root root 4096 Sep  8 14:01 27
drwxr-xr-x  2 root root 4096 Sep  8 14:01 28
drwxr-xr-x  2 root root 4096 Sep  8 14:01 29
drwxr-xr-x  2 root root 4096 Sep  8 14:01 3
drwxr-xr-x  2 root root 4096 Sep  8 14:01 30
drwxr-xr-x  2 root root 4096 Sep  8 14:01 31
drwxr-xr-x  2 root root 4096 Sep  8 14:01 4
drwxr-xr-x  2 root root 4096 Sep  8 14:01 5

```

```

root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 02:08:57 PM EDT
root@kali:~# echo b{a,o}r
bar bor
root@kali:~# █

```

- **Permission**

```
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 02:12:43 PM EDT
root@kali:~# chmod u+x number.txt
root@kali:~# ls -la number.txt
-rwxr--r-- 1 root root 10 Sep  8 06:01 number.txt
root@kali:~# chmod u-x number.txt
root@kali:~# ls -la number.txt
-rw-r--r-- 1 root root 10 Sep  8 06:01 number.txt
root@kali:~# █
```

```
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 02:16:27 PM EDT
root@kali:~# sudo chown root number.txt
root@kali:~# ls -la number.txt
-rw-r--r-- 1 root root 10 Sep  8 06:01 number.txt
root@kali:~# █
```

- **Job Control**

```
root@kali:~# echo $Name $(date)
ShubhangGupta Thu 08 Sep 2022 02:41:29 PM EDT
root@kali:~# ping www.google.com
PING www.google.com (142.250.193.100) 56(84) bytes of data.
64 bytes from maa05s24-in-f4.1e100.net (142.250.193.100): icmp_seq=1 ttl=56 time=308 ms
64 bytes from maa05s24-in-f4.1e100.net (142.250.193.100): icmp_seq=2 ttl=56 time=145 ms
64 bytes from maa05s24-in-f4.1e100.net (142.250.193.100): icmp_seq=3 ttl=56 time=198 ms
64 bytes from maa05s24-in-f4.1e100.net (142.250.193.100): icmp_seq=4 ttl=56 time=125 ms
64 bytes from maa05s24-in-f4.1e100.net (142.250.193.100): icmp_seq=5 ttl=56 time=141 ms
^Z
[1]+  Stopped                  ping www.google.com
root@kali:~# jobs
[1]+  Stopped                  ping www.google.com
root@kali:~# sleep 1000 &
[2] 4567
```

THE END