Linux-1

Practical exam in Bash scripting

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Task-1

This Script will open file from ***./tmp** folder and randomly read all the files will find the given search string as and example: "192.168.10." and find the matching replace all of them with the request string example: "192.168.20". It will create a file with ***.upd** extension and saved all the search and replace. The below pic will presenting output of the first task and I have run the **./script1.sh** file two times on the terminal and it saved the query on the same file after the first search with a new line. *We do not need to delete all the time after run bash script. Instead of deleting file the update run will save on every new line after the previous run. Find the argument and output on the following picture.

```
127.0.0.1       localhost
127.0.1.1       ubuntu

# Below is a list of IPv4 hosts
192.168.20.1    gw
192.168.20.2    host1
192.168.20.3    host2
192.168.20.4    host3
192.168.20.5    host4
192.168.20.6    host5
192.168.20.7    host6
192.168.30.5    host10
127.0.0.1       localhost
127.0.1.1       ubuntu

# Below is a list of IPv4 hosts
192.168.20.1    gw
192.168.20.2    host1
192.168.20.3    host2
192.168.20.4    host3
192.168.20.5    host4
192.168.20.6    host5
192.168.20.7    host6
192.168.30.5    host10
127.0.0.1       localhost
127.0.1.1       ubuntu
```

Picture-1

Task-2

This Script will show you the argument with the name (*filename, hostname and ipaddress).* Now we can choose any host from the **hosts** file as an example host5 has ipaddress 192.168.6 and we will replace it with new ip address 192.168.40. So the host5 IP address will be replaced. We can change multiple IP address based on the host name. **Note:** For all the argument it will create update ***.upd2** file. We do not need to delete all the time after run bash script. Instead of deleting file the update run will save on every new line after the previous run. Find the argument and output on the following pictures.

```
palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script2.sh -h

USAGE: $./script2.sh [-h] (filename) (hostname) (ipaddress)
Options:
    -h) Opens helper to see options and arguments needed (optional)

Mendatory Arguments:
    filename  : Provide "file_name" or "file_full_path" to search
    hostname  : Provide "host_name" as a search keyword
    ipaddress : Provide new "ip_address" for replacing the old one

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script2.sh tmp/hosts host5 192.168.10.40

Changed IP Addresses:
(192.168.10.6   host5) => changed to => (192.168.10.40  host5)

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script2.sh tmp/hosts host4 192.168.10.40

Changed IP Addresses:
(192.168.10.5   host4) => changed to => (192.168.10.40  host4)
(192.168.10.5   host4) => changed to => (192.168.10.40  host4)
(192.168.10.5   host4) => changed to => (192.168.10.40  host4)
(192.168.10.5   host4) => changed to => (192.168.10.40  host4)
(192.168.10.5   host4) => changed to => (192.168.10.40  host4)

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ █
```

Picture-2

```
127.0.0.1          localhost
127.0.1.1          ubuntu

# Below is a list of IPv4 hosts
192.168.10.1       gw
192.168.10.2       host1
192.168.10.3       host2
192.168.10.4       host3
192.168.10.5       host4
192.168.10.40      host5
192.168.10.7       host6
192.168.30.5       host10
```

Picture-3

```
127.0.0.1          localhost
127.0.1.1          ubuntu

# Below is a list of IPv4 hosts
192.168.10.1       gw
192.168.10.2       host1
192.168.10.3       host2
192.168.10.4       host3
192.168.10.40      host4
192.168.10.40      host4
192.168.10.40      host4
192.168.10.40      host4
192.168.10.40      host4
192.168.10.40      host4
192.168.10.6       host5
192.168.10.7       host6
192.168.30.5       host10
```

Picture-4

Task-3

Task 3 contents of update features of task2 specially, we need to choose an argument to run the script. The task will provide us to search host from the hosts file. We can also replace any single or multiple host IP address against of new IP address and the remove option will keep the old host and replace with the new IP address. **Note:** For all the argument it will create update ***.upd3** file. We do not need to delete all the time after run bash script. Instead of deleting file the update run will save on every new line after the previous run. Find the argument and output on the following pictures or we can keep separate file with the different name.


```
palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script3.sh -h

USAGE: $./script3.sh [-h|-s|-b|-r] (filename) (hostname) (ipaddress)
Options:
    -h) Opens helper to see options and arguments needed (optional)
    -s) Search for IP address or hostname and copy the match into a file. Print matchese on STDOUT (optional)
    -b) Search for IP address by hostname and replace old ip with new ip and copy update into a file. Print updates on STDOUT (optional)
    -r) Search for IP address or hostname and delete the match and copy update into a file. Print deleted on STDOUT (optional)

Mendatory Arguments:
    filename  : Provide "file_name" or "file_full_path" to search
    hostname  : Provide "host_name" as a search keyword
    ipaddress : Provide new "ip_address" for replacing the old one

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script3.sh -s tmp/hosts host2 192.168.10.40

Matched IP Addresses And Hostn Names:
192.168.10.3    host2

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script3.sh -b tmp/hosts host2 192.168.10.40

Changed IP Addresses:
(192.168.10.3    host2) => changed to => (192.168.10.40  host2)

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$ ./script3.sh -r tmp/hosts host2 192.168.10.5

Following Lines Deleted:
192.168.10.3    host2
192.168.10.5    host4

palash@palash-Lenovo-YOGA-720-13IKB:~/palash/dev_ops_bash$
```
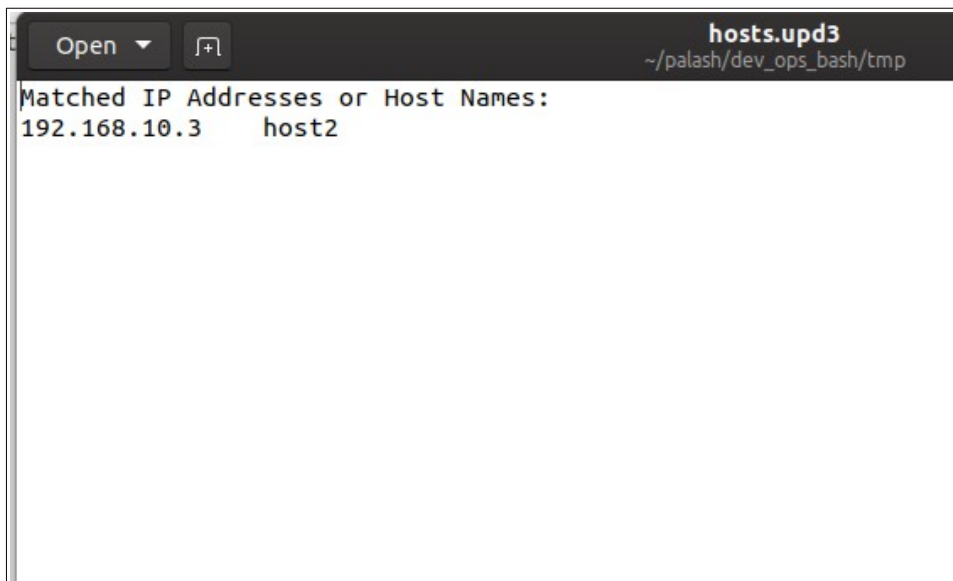
Picture-5

Picture-6

```
127.0.0.1          localhost
127.0.1.1          ubuntu

# Below is a list of IPv4 hosts
192.168.10.1     gw
192.168.10.2     host1
192.168.10.40    host2
192.168.10.4     host3
192.168.10.5     host4
192.168.10.6     host5
192.168.10.7     host6
192.168.30.5     host10
```

Picture-7

```
127.0.0.1          localhost
127.0.1.1          ubuntu

# Below is a list of IPv4 hosts
192.168.10.1     gw
192.168.10.2     host1
# 192.168.10.3   host2
192.168.10.4     host3
# 192.168.10.5   host4
192.168.10.6     host5
192.168.10.7     host6
192.168.30.5     host10
```

Picture-8

All the test performed with one single file name **hosts**, but we can do the same if we have multiple
file. Based on my practical I do not use file named **hosts2**. To keep it update I have deleted all the
new ***.upd** from the ./tmp folder.