Linux Task 1

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Group: IoT-701-A
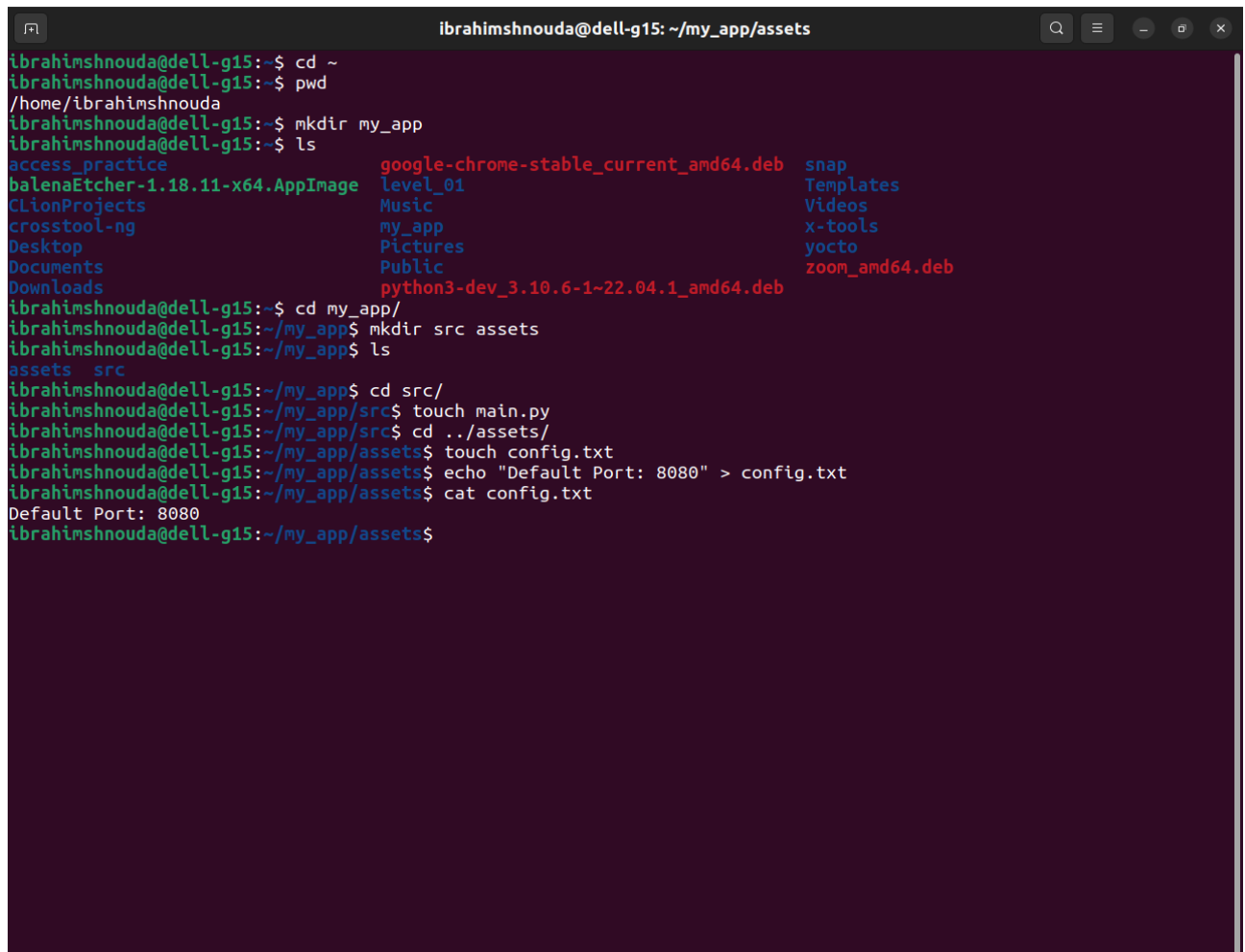**Facilitator: Eng.Ehab Elsayed**

Output:

Part 1: Create the Project Structure

1.Create Directories:

1.1.ibrahimshnouda@dell-g15:~$ mkdir my_app

1.2.ibrahimshnouda@dell-g15:~$ cd my_app/

1.3.ibrahimshnouda@dell-g15:~/my_app$ mkdir src assets

2.Create and Populate Files:

2.1.ibrahimshnouda@dell-g15:~/my_app$ touch src/main.py

2.2.ibrahimshnouda@dell-g15:~/my_app$ touch assets/config.txt

2.3.ibrahimshnouda@dell-g15:~/my_app$ echo "Default Port: 8080" > assets/config.txt

Part 2: Linking and Searching

1.Create a Symbolic Link:

1.1.

ibrahimshnouda@dell-g15:~/my_app$ ln -s assets/config.txt active_config

1.2.

ibrahimshnouda@dell-g15:~/my_app$ ls -l
total 8
lrwxrwxrwx 1 ibrahimshnouda ibrahimshnouda   17 Aug 27 15:11 active_config ->
assets/config.txt
drwxrwxr-x 2 ibrahimshnouda ibrahimshnouda 4096 Aug 27 15:05 assets
drwxrwxr-x 2 ibrahimshnouda ibrahimshnouda 4096 Aug 27 15:05 src

2.Find System Files:

2.1.

ibrahimshnouda@dell-g15:~/my_app$ sudo find /etc -name services
[sudo] password for ibrahimshnouda:
/etc/avahi/services
/etc/services

2.2.

ibrahimshnouda@dell-g15:~/my_app$ sudo cp /etc/services ./assets/

3.Search File Content:

3.1.

ibrahimshnouda@dell-g15:~/my_app$ cat assets/services | grep "http"
Updated from https://www.iana.org/assignments/service-names-port-
numbers/service-names-port-numbers.xhtml .
http   80/tcp   www   # WorldWideWeb HTTP
https   443/tcp   # http protocol over TLS/SSL
https   443/udp   # HTTP/3
http-alt   8080/tcp   webcache   # WWW caching service

3.2.

ibrahimshnouda@dell-g15:~/my_app$ grep -n "http" assets/services
3:# Updated from https://www.iana.org/assignments/service-names-port-
numbers/service-names-port-numbers.xhtml .
39:http   80/tcp   www   # WorldWideWeb HTTP
83:https   443/tcp   # http protocol over TLS/SSL
84:https   443/udp   # HTTP/3
263:http-alt   8080/tcp   webcache   # WWW caching service

```
ibrahimshnouda@dell-g15:~/my_app/assets$ cd ..
ibrahimshnouda@dell-g15:~/my_app$ ln -s assets/config.txt active_config
ibrahimshnouda@dell-g15:~/my_app$ ls -l
total 8
lrwxrwxrwx 1 ibrahimshnouda ibrahimshnouda   17 Aug 27 14:48 active_config -> assets/config.txt
drwxrwxr-x 2 ibrahimshnouda ibrahimshnouda 4096 Aug 27 14:45 assets
drwxrwxr-x 2 ibrahimshnouda ibrahimshnouda 4096 Aug 27 14:45 src
ibrahimshnouda@dell-g15:~/my_app$ find /etc -name services
find: '/etc/cups/ssl': Permission denied
find: '/etc/ssl/private': Permission denied
/etc/avahi/services
find: '/etc/polkit-1/localauthority': Permission denied
/etc/services
ibrahimshnouda@dell-g15:~/my_app$ sudo find /etc -name services
[sudo] password for ibrahimshnouda:
/etc/avahi/services
/etc/services
ibrahimshnouda@dell-g15:~/my_app$ sudo cp /etc/services ./assets/
ibrahimshnouda@dell-g15:~/my_app$ ls assets/
config.txt  services
ibrahimshnouda@dell-g15:~/my_app$ cat assets/services | grep "http"
# Updated from https://www.iana.org/assignments/service-names-port-numbers/service-names-port-numbers.xhtml .
http            80/tcp          www             # WorldWideWeb HTTP
https           443/tcp                         # http protocol over TLS/SSL
https           443/udp                         # HTTP/3
http-alt        8080/tcp        webcache        # WWW caching service
ibrahimshnouda@dell-g15:~/my_app$
ibrahimshnouda@dell-g15:~/my_app$
ibrahimshnouda@dell-g15:~/my_app$ grep -n "http" assets/services
3:# Updated from https://www.iana.org/assignments/service-names-port-numbers/service-names-port-numbers.xhtml .
39:http          80/tcp          www                     # WorldWideWeb HTTP
83:https                 443/tcp                          # http protocol over TLS/SSL
84:https                 443/udp                          # HTTP/3
263:http-alt    8080/tcp        webcache        # WWW caching service
ibrahimshnouda@dell-g15:~/my_app$ 
```

Part 3: Verification and Cleanup

1.Verify Directory Structure:

ibrahimshnouda@dell-g15:~/my_app$ tree

```
.
├── active_config -> assets/config.txt
├── assets
│   ├── config.txt
│   └── services
├── src
└── main.py
```

2 directories, 4 files

2.Clean Up:

2.1.

ibrahimshnouda@dell-g15:~/my_app$ rm active_config

2.2.

ibrahimshnouda@dell-g15:~$ rm -rf my_app

```
ibrahimshnouda@dell-g15:~/my_app$ tree
.
├── active_config -> assets/config.txt
├── assets
│   ├── config.txt
│   └── services
└── src
    └── main.py

2 directories, 4 files
ibrahimshnouda@dell-g15:~/my_app$ ls -R
.:
active_config  assets  src

./assets:
config.txt  services

./src:
main.py
ibrahimshnouda@dell-g15:~/my_app$ rm active_config
ibrahimshnouda@dell-g15:~/my_app$ cd ..
ibrahimshnouda@dell-g15:~$ rm -r my_app
rm: remove write-protected regular file 'my_app/assets/services'? y
ibrahimshnouda@dell-g15:~$ ls my_app
ls: cannot access 'my_app': No such file or directory
ibrahimshnouda@dell-g15:~$ 
```

By: Ibrahim Shnouda

Thank you…