

A1.

- a) Included in the folder
- b) Please find the image in the folder with name 'config\_image'.

A2.

- a) Steps to configure the routing table:
  - 1) Enabled the IP forwarding for all the routes and the corresponding code can be found in `enable_forward.sh`  
`h1 echo 1 > /proc/sys/net/ipv4/ip_forward`  
similar commands have been followed for other routers as well
  - 2) Configured the interfaces and the corresponding code can be found in the `interfaces.sh`  
`r1 ip addr add 173.1.0.1/16 dev r1-eth1 ---` commands configures the interface  
similarly, the other routers interface has been configured
  - 3) Created the static route table for each route. The corresponding code can be found in `routes.sh`
  - 4) Enabled the NATing for IP forwarding. The corresponding code can be found in `nat.sh`

Screenshot of the routing table is included as an image in the current folder with the name 'routes.png'

- b) The traceroutes between h1 and h2 have been included as an image in the current folder with the name 'traceroutes.png'

If you want to run the file then :

- 1) Sudo python start.py
- 2) Then follow the steps as shown in the image named 'steps.png' after you see the output of the above command.

References:

<http://www.ducea.com/2006/08/01/how-to-enable-ip-forwarding-in-linux/>

<https://my.esecuredata.com/index.php?/knowledgebase/article/2/add-a-static-route-on-centos>

<https://www.revsys.com/writings/quicktips/nat.html>