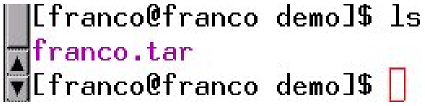
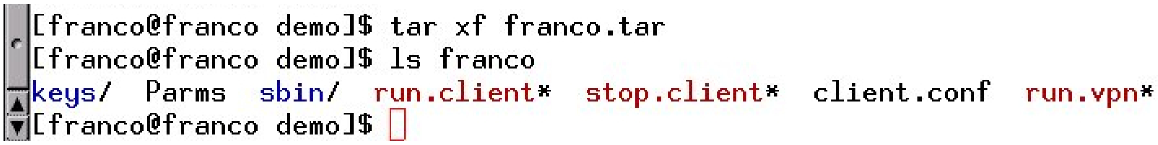
Instructions for joining a contest

You have been sent file `<player-name>.tar`. Below you see this file for me in directory `demo` on my laptop.



```
[franco@franco demo]$ ls
franco.tar
[franco@franco demo]$
```

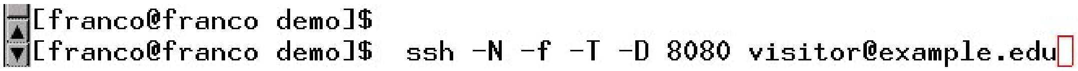
If Openvpn is to be used to establish the contest network, the file `franco.tar` will contain contest vpn credentials in directory `keys`, the openvpn configuration file `client.conf`, a contest configuration file `Parms`, and scripts to join the vpn. If OpenVPN is not used only the `Parms` file is archived. Untar `franco.tar` and list its contents (below assumes OpenVPN is used):



```
[franco@franco demo]$ tar xf franco.tar
[franco@franco demo]$ ls franco
keys/  Parms  sbin/  run.client*  stop.client*  client.conf  run.vpn*
[franco@franco demo]$
```

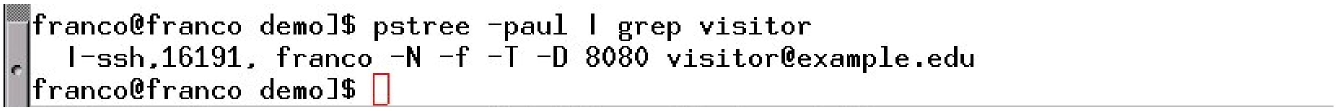
The file client.conf is the openvpn configuration file for joining the vpn. The file run.client runs openvpn on client.conf. You need to be administrator to use this. The keys directory contains your openvpn credentials.

If you are joining from outside your organization's perimeter and the OpenVPN server is inside the perimeter you likely need to start and use a socks proxy. To connect to the socks proxy do this:



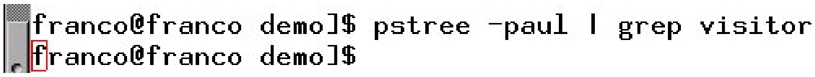
```
[franco@franco demo]$
[franco@franco demo]$  ssh -N -f -T -D 8080 visitor@example.edu
```

assuming `ssh` is used as the proxy and the restricted account for the proxy is `visitor` on machine `example.edu`. This is followed by a password prompt - the password will be provided by the OpenVPN administrator. To make sure the proxy is running do this:



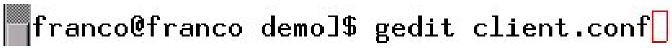
```
franco@franco demo]$ pstree -paul | grep visitor
  |-ssh,16191, franco -N -f -T -D 8080 visitor@example.edu
franco@franco demo]$
```

If it is not running you will see this:



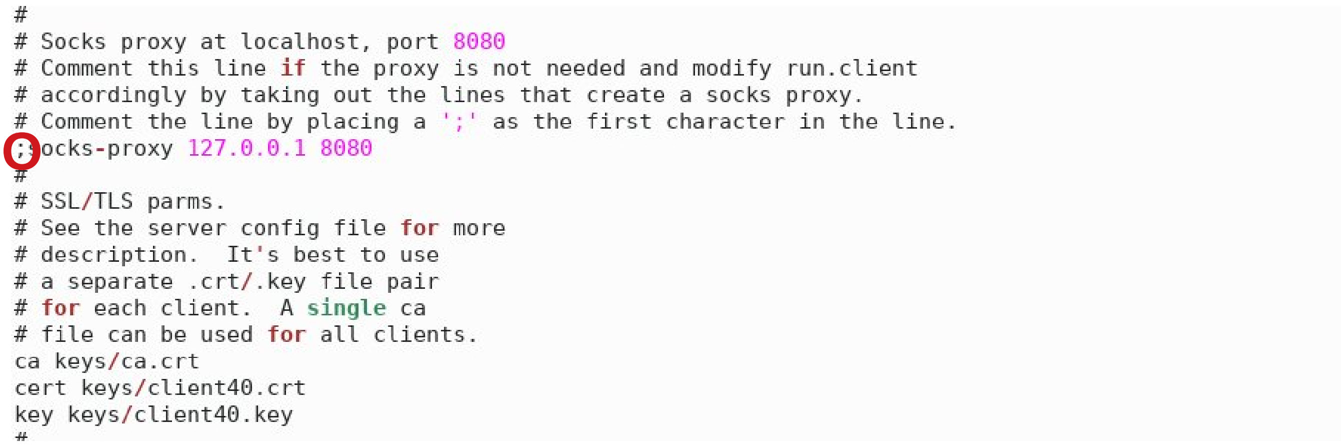
```
franco@franco demo]$ pstree -paul | grep visitor
franco@franco demo]$
```

You must have the socks proxy running if joining from outside your organization's perimeter if the OpenVPN server is operating from within the perimeter. If using a socks proxy you must also make a change to `client.conf`. First edit the file, for example like this



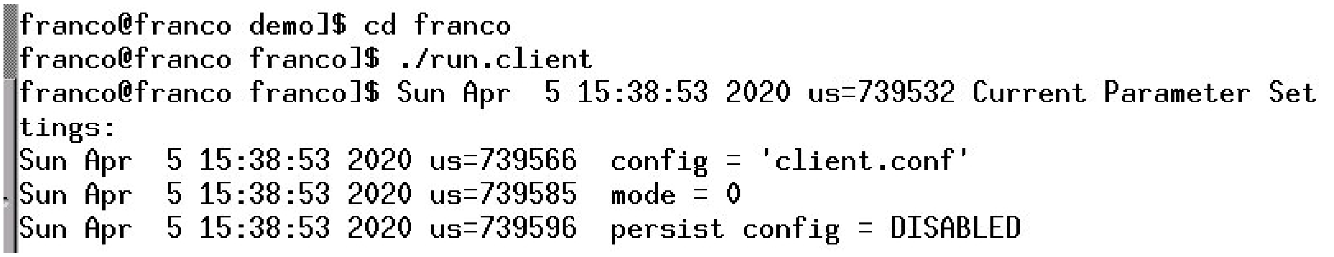
```
franco@franco demo]$ gedit client.conf
```

Then make the change where circled in red – remove the semi-colon:



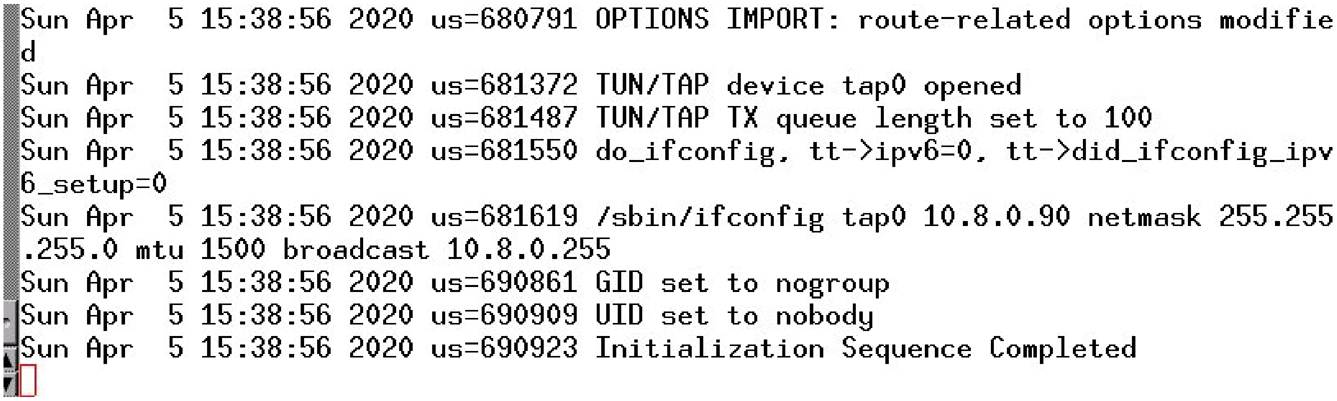
```
#
# Socks proxy at localhost, port 8080
# Comment this line if the proxy is not needed and modify run.client
# accordingly by taking out the lines that create a socks proxy.
# Comment the line by placing a ';' as the first character in the line.
;socks-proxy 127.0.0.1 8080
#
# SSL/TLS parms.
# See the server config file for more
# description.  It's best to use
# a separate .crt/.key file pair
# for each client.  A single ca
# file can be used for all clients.
ca keys/ca.crt
cert keys/client40.crt
key keys/client40.key
#
```

Save the edited file, change directory, and start openvpn (you have to have admin privileges):



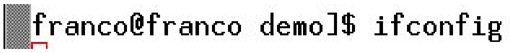
```
franco@franco demo]$ cd franco
franco@franco franco]$ ./run.client
franco@franco franco]$ Sun Apr  5 15:38:53 2020 us=739532 Current Parameter Set
tings:
Sun Apr  5 15:38:53 2020 us=739566  config = 'client.conf'
Sun Apr  5 15:38:53 2020 us=739585  mode = 0
Sun Apr  5 15:38:53 2020 us=739596  persist config = DISABLED
```

...



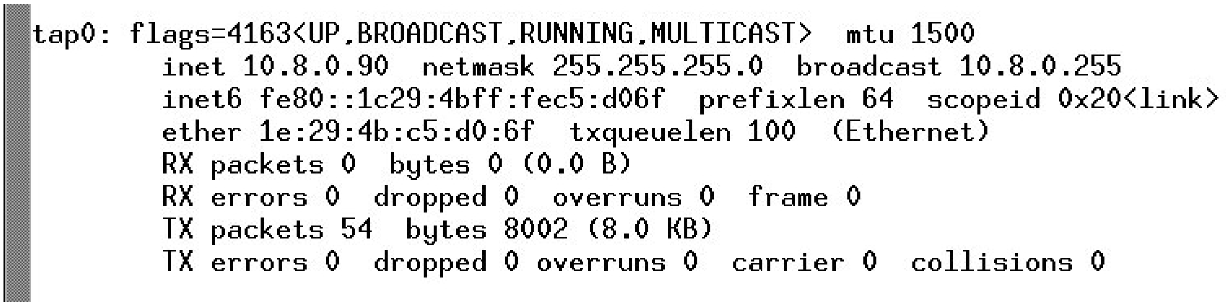
```
Sun Apr  5 15:38:56 2020 us=680791 OPTIONS IMPORT: route-related options modifie
d
Sun Apr  5 15:38:56 2020 us=681372 TUN/TAP device tap0 opened
Sun Apr  5 15:38:56 2020 us=681487 TUN/TAP TX queue length set to 100
Sun Apr  5 15:38:56 2020 us=681550 do_ifconfig, tt->ipv6=0, tt->did_ifconfig_ipv
6_setup=0
Sun Apr  5 15:38:56 2020 us=681619 /sbin/ifconfig tap0 10.8.0.90 netmask 255.255
.255.0 mtu 1500 broadcast 10.8.0.255
Sun Apr  5 15:38:56 2020 us=690861 GID set to nogroup
Sun Apr  5 15:38:56 2020 us=690909 UID set to nobody
Sun Apr  5 15:38:56 2020 us=690923 Initialization Sequence Completed
```

If you see ‘Initialization Sequence Completed’ you likely will have joined the vpn. To make sure use `ifconfig` (if `ifconfig` is not found you can get it using ‘`sudo apt install net-tools`’). You will see a tap interface with a 10.8.0 ip address. Here it is 10.8.0.90 but your rightmost octet will be a number between 100 and 149.



```
franco@franco demo]$ ifconfig
```

...



```
tap0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.8.0.90  netmask 255.255.255.0  broadcast 10.8.0.255
        inet6 fe80::1c29:4bff:fec5:d06f  prefixlen 64  scopeid 0x20<link>
        ether 1e:29:4b:c5:d0:6f  txqueuelen 100  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 54  bytes 8002 (8.0 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Summary

Your VM

Connecting to the contest using OpenVPN

The following assumes a directory called `keys` with files `ca.crt`, `clientX.key`, `clientX.crt` an OpenVPN configuration file client.conf with a section like this:

```
    ca keys/ca.crt
    cert keys/clientX.crt
    key keys/clientX.key
```

where **X** is a number from 0 to 150, and a line indicating the internal address of the OpenVPN server like this:

```
    remote 10.52.10.254 1194
```

plus scripts `run.client` and `run.player` for starting the OpenVPN connection and Client

Using OpenVPN with a socks proxy

1. edit `client.conf` → remove semi-colon from `;socks-proxy 127.0.0.1 8080`
2. check whether there is a connection to socks proxy → `pstree -paul | grep ssh`
   example result:
   ```
   -ssh,6687,user -N -f -T -D 8080 visitor@example.edu
   ```
3. if there is no result as above (no connection) then do this:
   a. connect to socks proxy → `ssh -N -f -T -D 8080 visitor@example.com`
      (password may be required)
4. check whether openvpn is running → `pstree -paul | grep openvpn`
   example result:
   ```
   -openvpn,6984,nobody client.conf
   ```
5. if there is a result as above (openvpn is running) then do this:
   a. kill the running process → `killall openvpn`
6. start the openvpn client → `./run.client`

Using OpenVPN without a socks proxy

1. complete steps 1, 4, 5, 6 above

Connecting to the contest without using OpenVPN

1. Set your ip address statically according to the number in file `Parms`