1. Create a virtual machine having the os centos.

   a. **Install firewall in the vm(centos might have firewall installed in default).(firewalld or iptables)**
   b. **Block certain ip range/subnet using firewalld.**
   c. **Allow http, https and ssh connection using firewall.**
   d. **You can add other rules as well as you prefer.**
      Note: The firewall rules should be saved permanently.

Answer:

   a. firewall in the vm

```
[root@localhost ipv4]# systemctl status firewalld.service
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: e
nabled)
   Active: active (running) since Tue 2021-11-02 17:56:44 +0545; 8min ago
     Docs: man:firewalld(1)
 Main PID: 11070 (firewalld)
    Tasks: 2
   CGroup: /system.slice/firewalld.service
           └─11070 /usr/bin/python2 -Es /usr/sbin/firewalld --nofork --nopid
```

   b. Block certain ip range/subnet using firewalld.

firewall-cmd --permanent --add-rich-rule="rule family='ipv4' source

address='192.168.10.0/24' reject"

```
[root@localhost ipv4]# firewall-cmd --permanent --add-rich-rule="rule family='ipv4' sou
rce address='192.168.10.0/24' reject"
success
[root@localhost ipv4]#
```

   c. Allow http, https and ssh connection using firewall.

```
[root@localhost ipv4]# firewall-cmd --permanent --add-service=http
success
[root@localhost ipv4]# firewall-cmd --permanent --add-service=https
success
[root@localhost ipv4]# firewall-cmd --permanent --add-service=ssh
Warning: ALREADY_ENABLED: ssh
success
[root@localhost ipv4]#
```

Commands:

firewall-cmd --permanent --add-service=http

firewall-cmd --permanent --add-service=https

```
firewall-cmd --permanent --add-service=ssh
```

d. You can add other rules as well as you prefer.

```
firewall-cmd --permanent --add-service=dhcpd
```