Configuring Port Forwarding with iptables

LPIC-2: Linux Engineer (202-450)

Objectives:

At the end of this episode, I will be able to:

1. Describe network address translation (NAT)
2. Configure *iptables* to forward a port to another host using NAT

> Additional resources used during the episode can be obtained using the download link on the overview episode.

- Configuring Port Forwarding with *iptables*
    - Forwarding ports
    - Performing source and destination NAT
- Configuration Steps
    1. Enable connection tracking for the port
    2. Configure Destination NAT
    3. Configure Source NAT
- Conneciton Tracking
    - Allow connections to establish
    - Keep a record of the connection to help identify follow-up packets
    - `sudo iptables -A FORWARD -i enp0s6 -o enp0s5 -p tcp --syn --dport 3306 -m conntrack --ctstate NEW -j ACCEPT`
- Allow subsequent packets in the connection
    - `iptables -A FORWARD -i enp0s6 -o enp0s5 -m conntrack --ctstate ESTABLISHED,RELATED -j ACCEPT`
- Network Address Translation (NAT)
    - Destination NAT (DNAT)
        - `sudo iptables -t nat -A PREROUTING -i enp0s6 -p tcp --dport 3306 -j DNAT --to-destination 10.222.0.50`
    - Source NAT(SNAT)
        - Individual source NAT (if global NAT is off)
        - `sudo iptables -t nat -A POSTROUTING -o enp0s5 -p tcp --dport 3306 -d 10.222.0.50 -j SNAT --to-source 10.222.0.51`
    - Save configuration
        - `sudo iptables-save | sudo tee /etc/iptables/rules.v4`