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#!/bin/bash
# Basic setup
# To clean up all defaults and existing rules
# Option "-F" indicates flush.

iptables -F

# To make default policies (-p) to DROP for FORWARD and INPUT,
# and ACCEPT for OUTPUT.
# All the outgoing connections are allowed.

iptables -P FORWARD DROP
iptables -P OUTPUT ACCEPT
iptables -P INPUT DROP

# Allow All Incoming SSH

iptables -A INPUT -i eth0 -p tcp --dport 22 -j ACCEPT
iptables -A OUTPUT -o eth0 -p tcp --sport 22 -j ACCEPT

# Allow local loopback:
# from localhost to localhost without outgoing/incoming connections

iptables -A INPUT -i lo -j ACCEPT
iptables -A OUTPUT -o lo -j ACCEPT

# Allow DNS (domain name server)
# To translate human-friendly computer hostnames into IP addresses
# e.g., www.hawaii.edu = 128.171.224.100

iptables -A OUTPUT -p udp -o eth0 --dport 53 -j ACCEPT
iptables -A INPUT -p udp -i eth0 --sport 53 -j ACCEPT

# Allow ping from Inside (replying or receiving) to Outside (requesting)

iptables -A OUTPUT -p icmp --icmp-type echo-request -j ACCEPT
iptables -A INPUT -p icmp --icmp-type echo-reply -j ACCEPT

# Allow Outgoing http

iptables -A OUTPUT -o eth0 -p tcp --dport 80 \
-m state --state NEW,ESTABLISHED -j ACCEPT

iptables -A INPUT -i eth0 -p tcp --sport 80 \
-m state --state ESTABLISHED -j ACCEPT

# Allow Outgoing https

iptables -A OUTPUT -o eth0 -p tcp --dport 443 \
-m state --state NEW,ESTABLISHED -j ACCEPT

iptables -A INPUT -i eth0 -p tcp --sport 443 \
-m state --state ESTABLISHED -j ACCEPT

# Printer (ipp=631, cups=515)

iptables -A OUTPUT -p tcp -d 192.168.60.157 --dport 515 -j ACCEPT
iptables -A INPUT -p tcp -s 192.168.60.157 --sport 515 -j ACCEPT
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# Preventing DoS attack (only for web server):  
# 200 new connections (packets really) are allowed  
# before the limit of 50 NEW connections (packets) per minute is applied.
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iptables -A INPUT -p tcp --dport 80 -m state --state NEW \  
-m limit --limit 50/minute --limit-burst 200 -j ACCEPT
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# LOG
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iptables -A INPUT -j LOG  
iptables -A FORWARD -j LOG
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# Show the current iptables: -L indicates list.
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```
iptables -L
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