Fail2ban Primer

Steak Electronics

05/12/19

1 Overview

Fail2Ban is a program, a spiritual successor to denyhosts[1], which is used to block ip addresses that try to break into your internet server.

2 Instructions for Setup

Quick setup for Devuan / Debian 9: First install fail2ban using apt-get. Second, navigate to /etc/fail2ban/jail.d/ Add the following to a sshd.conf file (or name it anything you like)

```
# this is used in devuan. no other changes are made to other files, except
# that the default ssh filter is disabled in jail.conf if it enabled

[sshd]
ignoreip = 127.0.0.1/8
#banaction = iptables
action   = iptables-multiport[port="ssh,http,https,22222",blocktype=DROP]
maxretry = 6
enabled = true
filter = sshd
logpath = /var/log/auth.log
bantime = 360000
findtime = 3600

# note that here, the action and its ports are set on INPUT
```

---

[1]denyhosts was used for ssh, but eventually was abandoned. It was quite a bit simpler to configure than fail2ban, and this was its strength, but it is also more limited, and has vulnerabilities.

```
# so its a rule to block INPUT on ssh, http, https, and 22222
# make sure ports are right.
# you could also use the single iptables too, just need to specify the right port.

#the blocktype=DROP here, goes to actions.d/iptables-multiport.conf, and changes bloc
```

Now, a few notes on this file.

First, action can be iptables, but we are using iptables-multiport, as we want to block multiple ports.

Second, logpath, should point to your ssh log. In devuan ascii / debian stretch (9) it should be /var/log/auth.log. Other distributions may vary.

Third, be careful of different ssh ports. I routinely change ssh ports to be a non standard port, which although it's somewhat pointless, it still seems to block random ssh port scans for port 22. If you use a different port, you must specify it in iptables-multiport above. A potential trap is to use a nonstandard port, then wonder why fail2ban blocks port 22, but your ssh is on port 123 or something.

Fourth, the default action in iptables-multiport is to REJECT packets. However, I have changed it to DROP (blocktype=DROP). For those not familiar with the difference between REJECT and DROP, from my understanding, it boils down to that REJECT will alert the outside host that the post is unreachable, while drop simply drops the connection, leaving the other host to figure it out on their own.

As I consider the offending ip addresses to be attackers, I have set it to DROP. If they try to break into the server, then block all ports from them, and don't tell them anything. The DROP timeout is more work on their end. With REJECT, my server actually responds to them.

On fail2ban issues git tracker, there is some discussion about this, and it is not really definitive. It ends up being that, REJECT is default, and if you want you can change it to DROP. As I have.

2.1   Configuration in Gentoo

This guide will only cover those working with syslog-ng in Gentoo. You can add a config to syslog-ng to get auth.log to appear in Gentoo. [2]

---

[2]https://wiki.gentoo.org/wiki/Security_Handbook/Logging#Syslog-ng

```
/etc/syslog-ng/syslog-ng.confSyslog-ng

@version: 3.17        #mandatory since Version 3, specify the version number of the u

options {
        chain_hostnames(no);

        # The default action of syslog-ng is to log a STATS line
        # to the file every 10 minutes.  That's pretty ugly after a while.
        # Change it to every 12 hours so you get a nice daily update of
        # how many messages syslog-ng missed (0).
        stats_freq(43200);
};

source src {
    unix-stream("/dev/log" max-connections(256));
    internal();
};

source kernsrc { file("/proc/kmsg"); };

# define destinations
destination authlog { file("/var/log/auth.log"); };
destination syslog { file("/var/log/syslog"); };
destination cron { file("/var/log/cron.log"); };
destination daemon { file("/var/log/daemon.log"); };
destination kern { file("/var/log/kern.log"); };
destination lpr { file("/var/log/lpr.log"); };
destination user { file("/var/log/user.log"); };
destination mail { file("/var/log/mail.log"); };

destination mailinfo { file("/var/log/mail.info"); };
destination mailwarn { file("/var/log/mail.warn"); };
destination mailerr { file("/var/log/mail.err"); };

destination newscrit { file("/var/log/news/news.crit"); };
destination newserr { file("/var/log/news/news.err"); };
destination newsnotice { file("/var/log/news/news.notice"); };

destination debug { file("/var/log/debug"); };
```

```
destination messages { file("/var/log/messages"); };
destination console { usertty("root"); };

# By default messages are logged to tty12...
destination console_all { file("/dev/tty12"); };

# ...if you intend to use /dev/console for programs like xconsole
# you can comment out the destination line above that references /dev/tty12
# and uncomment the line below.
#destination console_all { file("/dev/console"); };

# create filters
filter f_authpriv { facility(auth, authpriv); };
filter f_syslog { not facility(authpriv, mail); };
filter f_cron { facility(cron); };
filter f_daemon { facility(daemon); };
filter f_kern { facility(kern); };
filter f_lpr { facility(lpr); };
filter f_mail { facility(mail); };
filter f_user { facility(user); };
filter f_debug { not facility(auth, authpriv, news, mail); };
filter f_messages { level(info..warn)
        and not facility(auth, authpriv, mail, news); };
filter f_emergency { level(emerg); };

filter f_info { level(info); };
filter f_notice { level(notice); };
filter f_warn { level(warn); };
filter f_crit { level(crit); };
filter f_err { level(err); };
filter f_failed { message("failed"); };
filter f_denied { message("denied"); };

# connect filter and destination
log { source(src); filter(f_authpriv); destination(authlog); };
log { source(src); filter(f_syslog); destination(syslog); };
log { source(src); filter(f_cron); destination(cron); };
log { source(src); filter(f_daemon); destination(daemon); };
log { source(kernsrc); filter(f_kern); destination(kern); };
log { source(src); filter(f_lpr); destination(lpr); };
```

```
log { source(src); filter(f_mail); destination(mail); };
log { source(src); filter(f_user); destination(user); };
log { source(src); filter(f_mail); filter(f_info); destination(mailinfo); };
log { source(src); filter(f_mail); filter(f_warn); destination(mailwarn); };
log { source(src); filter(f_mail); filter(f_err); destination(mailerr); };

log { source(src); filter(f_debug); destination(debug); };
log { source(src); filter(f_messages); destination(messages); };
log { source(src); filter(f_emergency); destination(console); };

# default log
log { source(src); destination(console_all); };
```