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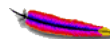


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Linux install and configure pound reverse proxy for Apache http / https web server

by Vivek Gite on December 11, 2007 · [21 comments](#)

Q. How do I install and configure pound reverse proxy for Apache web sever under Debian Linux?



A. Pound is a reverse-proxy load balancing server. It accepts requests from HTTP / HTTPS clients and distributes them to one or more Web servers. The HTTPS requests are decrypted and passed to the back-ends as plain HTTP. It will act as:

- Server load balancer
- Reverse proxy server
- Apache reverse proxy etc
- It can detects when a backend server fails or recovers, and bases its load balancing decisions on this information: if a backend server fails, it will not receive requests until it recovers
- It can decrypts https requests to http ones
- Rejects incorrect requests
- It can be used in a chroot environment (security feature)

If more than one back-end server is defined, Pound chooses one of them randomly, based on defined priorities. By default, Pound keeps track of associations between clients and back-end servers (sessions).

Install Pound Software

Type the following command to install pound:

```
$ sudo apt-get install pound
```

If you are using RHEL / CentOS, grab pound rpm here and type the command:

```
# rpm -ivh pound*
```

If you are using FreeBSD, enter:

```
# cd /usr/ports/www/pound/ && make install clean
```

How it works?

- Let us assume your public IP address 202.54.1.5.
- Pound will run on 202.54.1.5 port 80
- It will forward all incoming http requests to internal host 192.168.1.5 and 192.168.1.10 port 80 or 443
- Pound keeps track of associations between clients and back-end servers

Pound configuration file

- Under Debian / Ubuntu default file located at `/etc/pound/pound.cfg`
- Under FreeBSD it is located at `/usr/local/etc/pound.cfg` (you need to create this file)
- Under RHEL / CentOS you need to create file at `/etc/pound.cfg`

Sample configuration: HTTP Proxy

Forward all incoming request at 202.54.1.5 port 80 request to 192.168.1.5 Apache server running at 8080 port:

Open `/etc/pound/pound.cfg` file:

```
# vi /etc/pound/pound.cfg
```

To translate HTTP requests to a local internal HTTP server, enter (make sure 192.168.1.5 Apache running listening on port 8080):

```
ListenHTTP
    Address 202.54.1.5
    Port    80
    Service
        BackEnd
            Address 192.168.1.5
            Port    8080
```

```

        End
    End
End

```

Save and close the file. Restart pound:

```
# /etc/init.d/pound restart
```

Following example will distribute the all HTTP/HTTPS requests to two Web servers:

```

ListenHTTP
    Address 202.54.1.5
    Port    80
End

ListenHTTPS
    Address 202.54.1.5
    Port    443
    Cert    "/etc/ssl/local.server.pem"
End
Service
    BackEnd
        Address 192.168.1.5
        Port    80
    End
    BackEnd
        Address 192.168.1.6
        Port    80
    End
End

```

For testing purpose you may generate self signed ssl certificate (/etc/ssl/local.server.pem), by entering the following command:

```
# cd /etc/ssl && openssl req -x509 -newkey rsa:1024 -keyout local.server.pem -out
local.server.pem -days 365 -nodes
```

Pound log file

By default pound log message using syslog:

```
# tail -f /var/log/messages
# grep pound /var/log/messages
```

Sample complete configuration file

```

## Minimal sample pound.cfg
#####
## global options:
User      "www-data"
Group     "www-data"
#RootJail "/chroot/pound"
## Logging: (goes to syslog by default)
##      0      no logging
##      1      normal
##      2      extended
##      3      Apache-style (common log format)
LogLevel  1
## check backend every X secs:
Alive     30
## use hardware-acceleration card supported by openssl(1):
#SSLEngine ""

#####
## listen, redirect and ... to:
# Here is a more complex example: assume your static images (GIF/JPEG) are to be served from a single back-end 192.168.0.10. In
# addition, 192.168.0.11 is to do the hosting for www.myserver.com with URL-based sessions, and 192.168.0.20 (a 1GHz PIII) and
# 192.168.0.21 (800Mhz Duron) are for all other requests (cookie-based sessions). The logging will be done by the back-end servers.
# The configuration file may look like this:
# Main listening ports
ListenHTTP
    Address 202.54.1.10
    Port    80
    Client  10
End
ListenHTTPS
    Address 202.54.1.10
    Port    443
    Cert    "/etc/pound/pound.pem"
    Client  20
End

# Image server
Service
    URL    ".*(jpg|gif)"
    BackEnd
        Address 192.168.1.10
        Port    80
    End
End
# Virtual host www.myserver.com
Service
    URL    ".*sessid=.*"
    HeadRequire "Host:.*www.nixcraft.com.*"
    BackEnd

```

```

        Address 192.168.1.11
        Port      80
    End
    Session
        Type      PARM
        ID        "sessid"
        TTL       120
    End
End

# Everybody else
Service
    BackEnd
        Address 192.168.1.20
        Port      80
        Priority 5
    End
    BackEnd
        Address 192.168.1.21
        Port      80
        Priority 4
    End
    Session
        Type      COOKIE
        ID        "userid"
        TTL       180
    End
End

```

Suggested readings:

=> [Pound project](#)
=> Man pages : pound and poundctl

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1 [ariel](#) December 11, 2007

Nice !!! a few weeks ago i was googling for something like this for hours !!!

[Reply](#)

2 [vivek](#) December 11, 2007

Pound is simple and very nice. Many large site such as wordpress.com uses pound.

[Reply](#)

3 [Calomel](#) December 12, 2007

I would highly suggest pound or lighttpd as a reverse proxy. As of version 2.4e, Pound is extremely fast and stable. Lighttpd did have some problems in the past and most of those have been fixed. Memeory managment has been greatly improved. I have to agree about the documentation, but there are examples like the following to help everyone out:

Pound Reverse Proxy "how to"
<http://calomel.org/pound.html>

Light webserver "how to"
<http://calomel.org/lighttpd.html>

[Reply](#)

4 [vivek](#) December 12, 2007

Calomel,

Thanks for sharing your links. You got some pretty good stuff :)

[Reply](#)

5 [Babar](#) December 14, 2007

I am having the same thing using squid as reverse proxy. Seems to be doing pretty well for the

time being.

[Reply](#)

[6](#) Erik December 15, 2007

To bad it doesn't do caching. Also crossroads is a good LB as-well.

[Reply](#)

[7](#) ajay December 31, 2007

i have a linux system white box loaded. tell me how to configure its lan card for internet connection while server proxy address= 192.168.10.1
port : 6080

[Reply](#)

[8](#) McKeder April 16, 2008

I am extremely happy to have a tutorial like this. Until Recently, I had no idea what a Reverse Proxy was and this really helped me to understand it.

Thanks! and keep up all the great work!

[Reply](#)

[9](#) shashank August 10, 2008

HI Folks,

I have a deadline and the time is ticking. i am setting up pound as a reverser proxy for a site that runs on port 8080. I m trying to run pound on 80 and direct all the traffic to port 8080. i have pound up and running and the redirect happens fine just that when it redirects it gives me this error "The service is not available. Please try again later"

i believe i need to add some directive under the pound.cfg fine but not sure what. this is what i have for pound.cfg

```
User          "pound"
Group         "pound"
LogFacility   daemon
LogLevel      4
Alive         30
Client        10
TimeOut       10
Grace         10

ListenHTTP
  Address      0.0.0.0
  CheckURL    "(^\\|\\.html|\\.css|\\.jpg|favicon\\.ico|robots\\.txt|\\.png)$"
  HeadRemove  "X-Forwarded-For"
  MaxRequest  1024
  Port        80
  xHTTP       0

# Err414 "/var/www/htdocs/error/generic_error_page"
# Err500 "/var/www/htdocs/error/generic_error_page"
# Err501 "/var/www/htdocs/error/generic_error_page"
# Err503 "/var/www/htdocs/error/generic_error_page"

Service
  URL          ".*sessid=.*"
  HeadRequire  "Host:.*web249.solutionset.com.*"
  BackEnd
    Address    127.0.0.1
    Port       8080
  End
  Emergency
    Address    127.0.0.1
    Port       8888
  End
End
```

i am very new to pound so any help would be really appreciated. Thank you

[Reply](#)

[10](#) Techi November 14, 2008

Guys,

First I must say thank you for making reverse proxy so easy to configure and making techs life easy. I am running Pound 2.4.3 on RHEL5 server. I have three websites each running on separate webserver in internal network. I would like to reverse proxy them via one Pound server in DMZ. All three websites require secure connections for client and I like to install the certificates on the pound server for them. I have assigned three IPs on the pound server, one for each website. But these sites are not working. Below is my configuration.

```

ListenHTTP
    Address 202.168.1.1
    Port 80
    Service
    Redirect "https://www.abc.com"
    End
End

ListenHTTPS
    Address 202.168.1.1
    Port 443
    Cert "/usr/local/openssl/local.server.pem"
End

    Service
    BackEnd
        Address 172.17.1.1
        Port 80
    End

End

ListenHTTP
    Address 202.168.2.2
    Port 80
    Service
    Redirect "https://www.def.com"
    End
End

ListenHTTPS
    Address 202.168.2.2
    Port 443
    Cert "/usr/local/openssl/local1.server.pem"
End

    Service
    BackEnd
        Address 172.17.2.2
        Port 80
    End

End

ListenHTTP
    Address 202.168.3.3
    Port 80
    Service
    Redirect "https://www.ghi.com"
    End
End

ListenHTTPS
    Address 202.168.3.3
    Port 443
    Cert "/usr/local/openssl/local2.server.pem"
End

    Service
    BackEnd
        Address 172.17.3.3
        Port 80
    End

End

```

I am redirecting HTTP requests to HTTPS as I would only like to serve clients on secure channel. This works fine if I run each website on a separate pound server but I like to have them on one reverse proxy server. I will really appreciate if you can provide me any help in this regard. If it is not possible with this configuration is there any way to achieve this on a single pound server.

Thanks,
Farhan

[Reply](#)

[11](#) sameera December 1, 2008

Thanks Vivek

Finally i found a resource which is working

thankx again

[Reply](#)

[12](#) Kunal May 5, 2009

How to run pound in HA mode, and running it parallel so that both the servers can share session (In case if one is down) and how to maintain the sticky session in pound.

Thanks in Advance

-

Kunal

[Reply](#)

[13](#) Nishad September 10, 2009

I am beating around the bush for more than 4 days. I am a newbie for Linux. My management given me the deadline for setting Pound. If anybody please please help me out. I installed as listed. I installed CentOS 5 and installed Pound. Well it's not forwarding the requests to the internal web servers. Kindly give the instructions.

[Reply](#)

[14](#) mark September 18, 2009

we cannot seem to edit our pound.cfg file
its none wriable and we cannot chmod it either
does anyone have any ideas how we can make this file writable ?

[Reply](#)

[15](#) mair October 13, 2009

its really easy to configure i want to track the call record and email record as per proxy server can any body suggest me the way? itsyllabus@live.com

[Reply](#)

[16](#) amit August 4, 2010

Why not to use apache http server as reverse proxy itself?

[Reply](#)

[17](#) Clyde August 25, 2010

Hi,
How about the gateway of the back-end servers, do I point it to the Pound as gateway and configure Pound as transparent

[Reply](#)

[18](#) carl October 31, 2010

So can data on any port be sent to the BackEnd? And how would it be setup? Would it be done like this for other ports?

```
Service
HeadRequire "Host:.*domain.com.*"
BackEnd
Address 192.168.1.201
Port 80
Port 1812
Port 1813
```

End

[Reply](#)

[19](#) carl October 31, 2010

or would it be in the Listen group also?:
ListenHTTP
Address 192.168.1.150
Port 80
Port 1812
Port 1813
End

[Reply](#)

[20](#) fazayal March 4, 2011

hi
right config, Be sure your apache or any other service on particular machine does not use port 80.

[Reply](#)

[21](#) Sri March 21, 2011

Hi,
This is an Excellent Website..
I searched a lot about this topic, and found today!!!

Can any one please clarify my doubt?
Does pound supports dynamic configuration reload like
NGINX ?(Restarting master process alone will reload the configuration file)
I am required to do this.

—
Thanks in advance,
Sri

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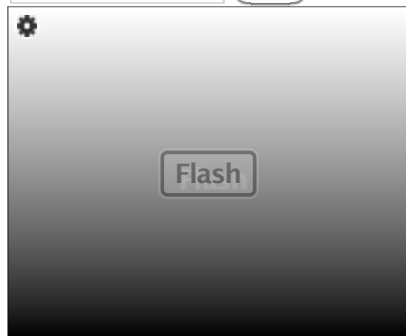
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