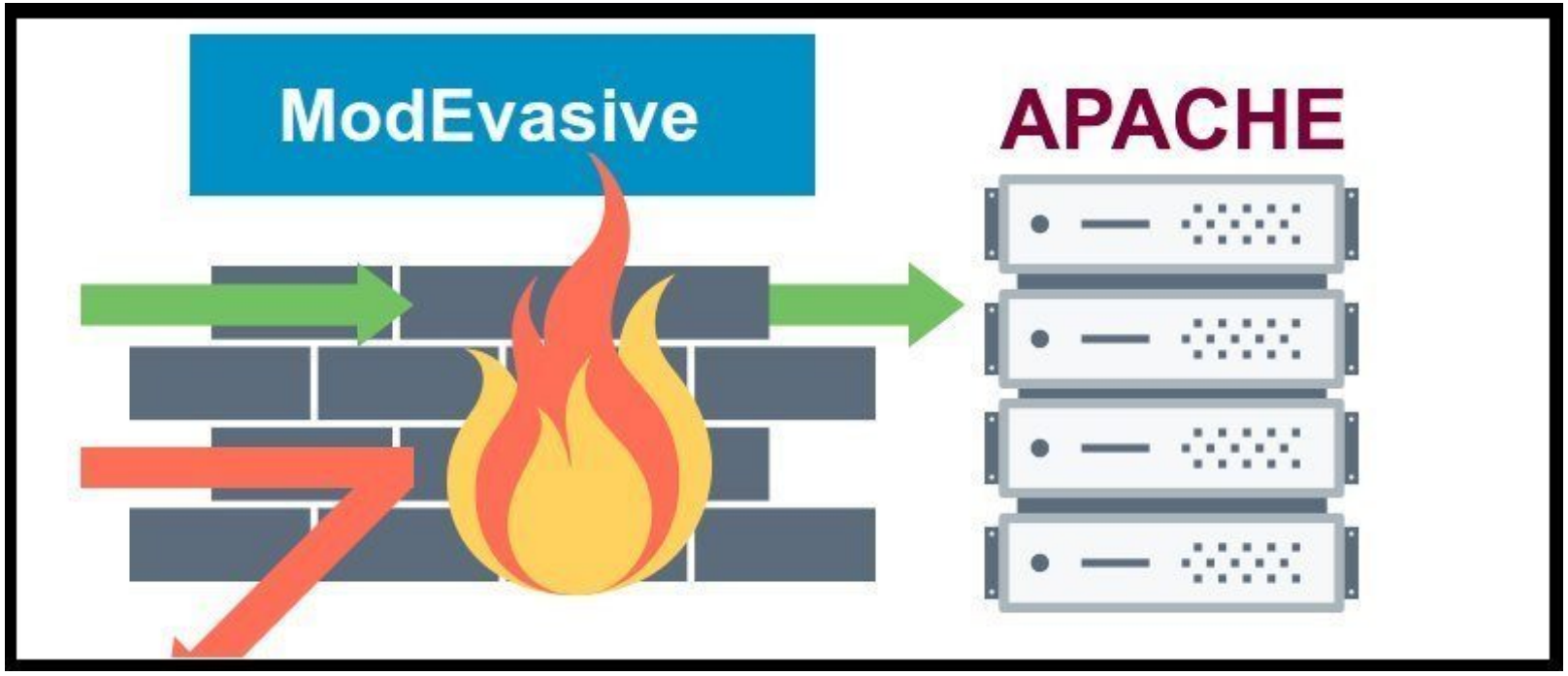
How to Protect Against DDoS with Mod_evasive on Apache Server

By Hitesh Jethva – Posted on Nov 26, 2015 in Linux



This article is part of the Apache Server Guide series:

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Mod_evasive is an Apache module that provides evasive action in the event of an HTTP DoS or DDoS attack or brute force attack. mod_evasive presently reports malicious activity via email and syslog. The mod_evasive module works by creating an internal dynamic hash table of IP addresses and URIs and denying any single IP address from any of the following conditions:

- Requesting the same page more than a few times per second

- Making more than 50 concurrent requests on the same child per second
- Making any requests while temporarily blacklisted (on a blocking list)

In this tutorial I will discuss how to install, configure and use mod_evasive on your Apache server. This tutorial uses a Ubuntu 14.04 server.

Installing mod_evasive

First, make sure Apache server is installed and running.

Next, you can install mod_evasive module by running:

```
sudo apt-get install libapache2-mod-evasive
```

After installing mod_evasive, you can verify this module by running the following commands:

```
sudo apachectl -M | grep evasive
```

If mod_evasive is enabled, you will see the following output:

```
evasive20_module (shared)
```

Configure Mod_evasive

The mod_evasive module reads its configuration from “/etc/apache2/mods-enabled/evasive.conf.” You can easily customize the mod_evasive module through the “evasive.conf” configuration file. By default, mod_evasive configuration options are disabled, so you will need to enable them first. To do this, edit the “evasive.conf” file:

```
sudo nano /etc/apache2/mods-enabled/evasive.conf
```

Remove `#` from the following lines:

```
    DOSHashTableSize    3097
    DOSPageCount        2
    DOSSiteCount        50
    DOSPageInterval     1
    DOSSiteInterval     1
    DOSBlockingPeriod   10
```

```
    DOSEmailNotify      mail@yourdomain.com
    DOSLogDir           "/var/log/apache2/"
```

Save the file and restart Apache for your changes to take effect:

```
sudo /etc/init.d/apache2 restart
```

You can change the above values according to the amount and type of traffic that your web server needs to handle.

`DOSHashTableSize :` This directive specifies how mod_evasive keeps track of who's accessing what. Increasing this number will provide a faster lookup of the sites that the client has visited in the past.

`DOSPageCount :` This directive specifies how many identical requests to a specific URI a visitor can make over the DOSPageInterval interval.

`DOSSiteCount :` This is similar to DOSPageCount but corresponds to how many requests overall a visitor can make to your site over the DOSSiteInterval interval.

`DOSBlockingPeriod :` If a visitor exceeds the limits set by DOSSPageCount or DOSSiteCount, his IP will be blocked during the DOSBlockingPeriod amount of time. During this interval, he will receive a

403 (Forbidden) error.

`DOSEmailNotify :` An email will be sent to the email address specified whenever an IP address is blacklisted.

`DOSLogDir :` This directive specifies the location of the log directory.

Testing Mod_evasive

Now it's time to test whether the mod_evasive module is working or not. You can do this by using a perl script "test.pl" located in the "/usr/share/doc/libapache2-mod-evasive/examples/" directory.

You can execute the script by running the following command:

```
sudo perl /usr/share/doc/libapache2-mod-evasive/examples/test.pl
```

You should see the following output:

The script makes 100 requests to your web server. The 403 response code indicates access is denied by the web server.

Conclusion

mod_evasive is a very important tool to secure an Apache web server against several threats. You can experiment with mod_evasive ano different options in a testing environment. If you have any questions, you can write them in the comment box below.

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