Migrating Self-Signed SSL Certificate to LetsEncrypt Certificate

Download Let's Encrypt Client

1. `sudo -s`
2. `git clone https://github.com/letsencrypt/letsencrypt /opt/letsencrypt`

Update Apache Configuration

Let's Encrypt does not detect multiple virtual host in a single file, so if you have multiple virtual hosts in a single file, you need to separate it and update the configuration for SSL only. Then redirect all plain-text traffic to SSL using a single virtual host.

Create a new virtual host in `/etc/httpd/conf.d/redirect_ssl.conf` to redirect plain-text traffic to SSL, replace all `<domain>` to your TLD, such as `example.com`:

1. `<VirtualHost *:80>`
2. `ServerName <domain>`
3. `ServerAlias *.<domain>`
4. `RewriteEngine on`
5. `RewriteRule ^/(.*) https://%{HTTP_HOST}/$1 [NC,R=301,L]`
6. `</VirtualHost>`

Setup SSL Certificates

1. `cd /opt/letsencrypt`
2. `./letsencrypt-auto --apache -d <domain> -d www.<domain> -d <subdomain>.<domain>`

Replacing `<domain>` with your domain, subsequent subdomains can be specified with `-d` option.

Restart Apache and Test

1. `systemctl restart httpd`

(Optional) Renewing SSL Certificates

Let's Encrypt issue **90 days** validity certificates, but you can however, renew it earlier in case errors occurred.

To renew the certificates, simply use the following command:

1. `/opt/letsencrypt/letsencrypt-auto renew`

If you have just created a new certificate, Let's Encrypt will never issue you a new one, it will only issue a new certificate for your domains if the validity period is **less than 30 days**, so, you can create a cronjob to try and renew the certificate every day, week or month, in case anything goes wrong with your certificate.

To setup cronjob to automatically renew certificate, enter command `crontab -e` to create a new cronjob and add the following line:

1. `0 3 * * 1 /opt/letsencrypt/letsencrypt-auto renew >> /var/log/le-renew.log`

The cronjob above will run on **every monday** at **3 A.M.**, it will append any output from `/opt/letsencrypt/letsencrypt-auto` to `/var/log/le-renew.log`. Please refer to the reference for more info on Linux cronjobs.

References

1. Digital Ocean Article
2. Let's Encrypt Article
3. Cronjob Format

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