

SSL certificates

[[ssl](#), [certificates](#), [letsencrypt](#)]

[letsencrypt certification authority](#) is free, automated and open.

acme.sh integration for letsencrypt

On host that has apache/nginx install acme.sh

```
wget -O - https://get.acme.sh | sh
. ~/.bashrc
# now /root/.acme.sh/acme.sh.env is available with bash alias
```

certificate generation

with nginx enable this server on port 80 for initial challenge

[site.conf](#)

```
server {
    listen 80;
    server_name "mail.csgalileo.org";

    # create this folder empty
    location /.well-known/acme-challenge {
        root /var/www;
    }
    allow all;
}

location / {
    return 301 https://$server_name$request_uri;
}
}
```

```
# /var/www is documentroot of mail.csgalileo.org
acme.sh --issue -w /var/www -d mail.csgalileo.org --keylength ec-256
```

results in **/root/.acme.sh/mail.csgalileo.org/**`gecc/** <file> [Fri Oct 14 08:05:13 CEST 2016] Creating account key [Fri Oct 14 08:05:15 CEST 2016] Registering account [Fri Oct 14 08:05:18 CEST 2016] Registered [Fri Oct 14 08:05:20 CEST 2016] Update success. [Fri Oct 14 08:05:20 CEST 2016] Creating domain key [Fri Oct 14 08:05:20 CEST 2016] Single domain='mail.csgalileo.org' [Fri Oct 14 08:05:20 CEST 2016] Verify each domain [Fri Oct 14 08:05:20 CEST 2016] Getting webroot for domain='mail.csgalileo.org' [Fri Oct 14 08:05:20 CEST 2016] _w='/var/www' [Fri Oct 14 08:05:20 CEST 2016] Getting new-authz for`

```

domain='mail.csgalileo.org' [Fri Oct 14 08:05:23 CEST 2016] Verifying:mail.csgalileo.org
[Fri Oct 14 08:05:31 CEST 2016] Success [Fri Oct 14 08:05:31 CEST 2016] Verify finished,
start to sign. [Fri Oct 14 08:05:34 CEST 2016] Cert success. ---BEGIN CERTIFICATE--- ...
---END CERTIFICATE--- [Fri Oct 14 08:05:34 CEST 2016] Your cert is in
/root/.acme.sh/mail.csgalileo.org/ecc/mail.csgalileo.org.cer [Fri Oct 14 08:05:34 CEST 2016]
Your cert key is in /root/.acme.sh/mail.csgalileo.org/ecc/mail.csgalileo.org.key [Fri Oct 14
08:05:34 CEST 2016] The intermediate CA cert is in
/root/.acme.sh/mail.csgalileo.org/ecc/ca.cer [Fri Oct 14 08:05:34 CEST 2016] And the full
chain certs is there: /root/.acme.sh/mail.csgalileo.org_ecc/fullchain.cer </file> ====
certificate integration for apache ==== <code bash> HOST=mail.csgalileo.org acme.sh
-installcert -d $HOST \ -certpath /etc/ssl/certs/${HOST}.cer \ -keypath
/etc/ssl/private/${HOST}.key \ -capath /etc/ssl/certs/ca.cer \ -fullchainpath
/etc/apache2/fullchain.cer \ -ecc \ -reloadcmd "service apache2 reload" </code> <file yml
apache.conf> <VirtualHost *:80> ServerName projects.csgalileo.org DocumentRoot
/var/www/html Alias /.well-known/acme-challenge/ /var/www/html/.well-known/acme-
challenge/ <Directory "/var/www/html/.well-known/acme-challenge/"> Options None
AllowOverride None ForceType text/plain RedirectMatch 404 "(?!/.well-known/acme-
challenge/[w-]{43}$)" </Directory> RewriteEngine On RewriteCond %{REQUESTURI}
!^/.well-known. RewriteRule ^/?(.) https://%{SERVERNAME}:443/$1 [R,L] Redirect
permanent / https://projects.csgalileo.org/ </VirtualHost> <VirtualHost *:443> # ...
SSL engine on SSLCertificateFile /etc/ssl/certs/mail.csgalileo.org.cer SSLCertificateKeyFile
/etc/ssl/private/mail.csgalileo.org.key SSLCertificateChainFile /etc/apache2/fullchain.cer
SSLCACertificateFile /etc/ssl/certs/ca.cer </VirtualHost> </file> ==== certificate
integration for nginx ==== <file yml site.conf> server { listen 443 ssl; server_name
"scipio.csgalileo.org";
# ... sslcertificate /etc/ssl/certs/scipio.csgalileo.org.cer; sslcertificate_key
/etc/ssl/private/scipio.csgalileo.org.key; } </file> <code bash> HOST=mail.csgalileo.org
acme.sh -installcert -d $HOST \ -keypath /etc/ssl/private/${HOST}.key \ -capath
/etc/ssl/certs/ca.cer \ -fullchainpath /etc/ssl/certs/${HOST}.cer \ -ecc \ -reloadcmd "service
nginx reload" </code> ==== renew automatic every 60 days ==== in cron there is
already <code bash> 04 0 * * * "/root/.acme.sh"/acme.sh -cron -home "/root/.acme.sh" >
/dev/null </code> ==== renew manual ==== <code bash> acme.sh -renew -d
mail.csgalileo.org -force -ecc </code>

```

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