SECARDEO

# certACME SSL/TLS Autoenrollment

## ACME Proxy

- Automated web server certificates
- Connect with private or public CAs
- Central Certificate Database
- Full, auditable control over all certificates
- Interoperable with standard ACME client

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## Certificates for Web Servers

## Interoperable - Automated - Centralized

### Web server certificates

The communication between a web browser and a web server is protected by the TLS protocol (former SSL). X.509 certificates are used for the negotiation of session keys. For public web servers, these certificates must be issued by a trusted public CA. For internal servers, certificates from an internal private CA may be used. The lifetime of public TLS certificates, currently one year, decreases more and more and therefore an automated certificate management is required urgently.

### ACME

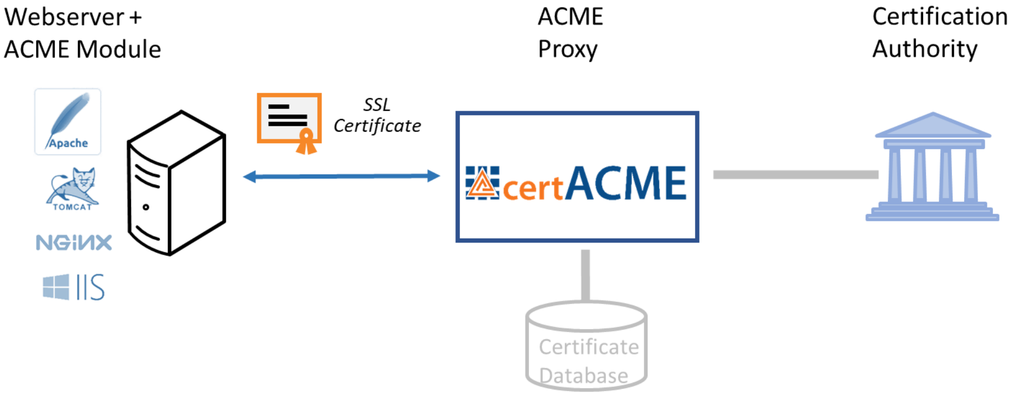
The Automatic Certificate Management Environment (ACME) protocol serves for automating interactions between certification authorities and web servers. It was designed for the free Let's Encrypt CA service.
A lot of ACME clients exist, that can automatically enroll certificates from Let’s Encrypt for standard web servers like Apache, NGINX, TomCat or IIS.

### Let’s Encrypt or Not?

There are a couple of reasons for an organization to use certificates from a commercial CA under a well defined contract.
Many organizations prefer to use an internal CA, where they have full control over internal server certificates.
On the other hand, when an administrator simply requests certificates directly from Let’s Encrypt, then the organization will loose control over all these certificates

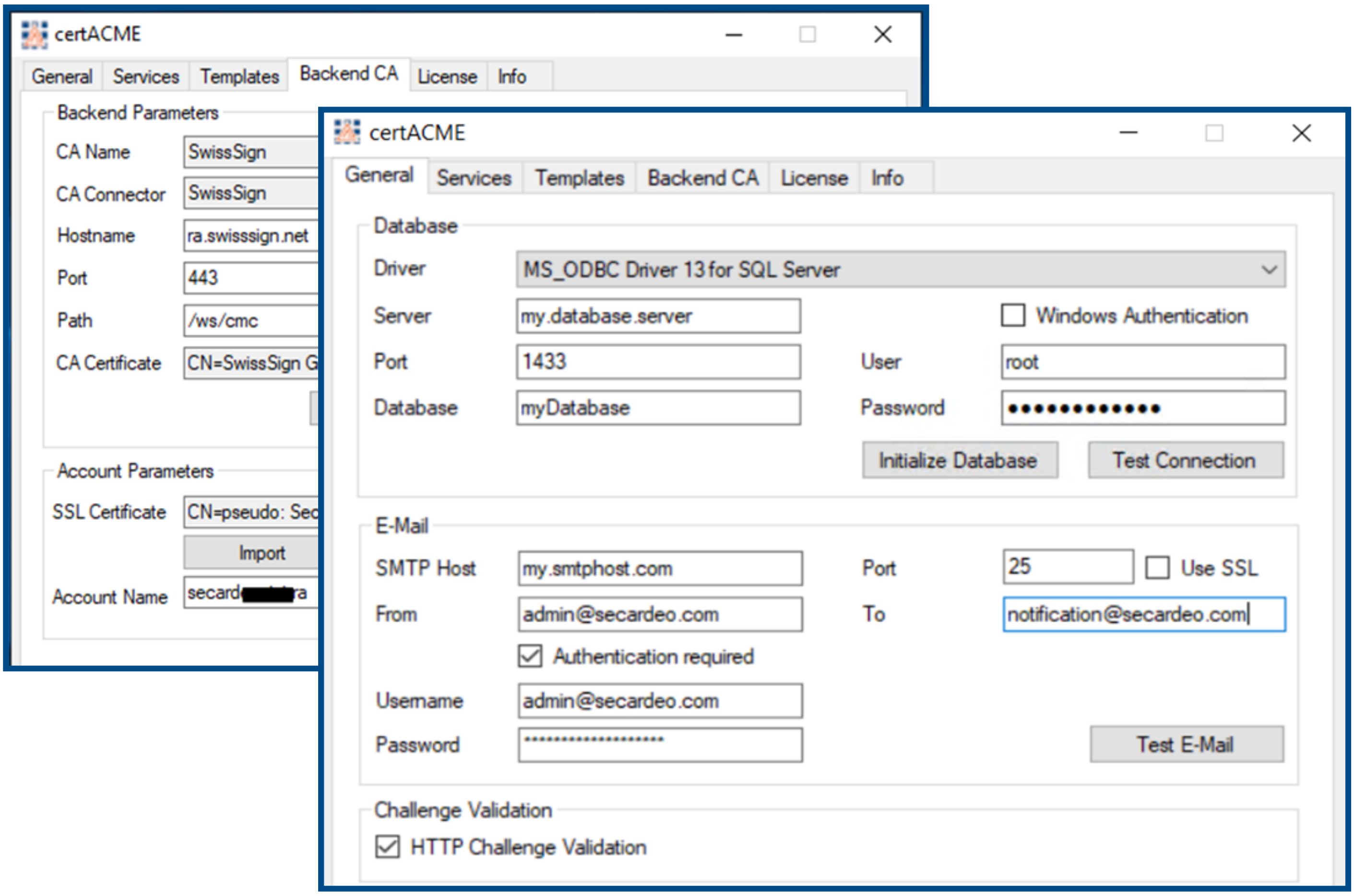
### Need for an ACME Proxy

With Secardeo certACME, web server certificates will be requested through this proxy. Also F5 Big-IP server pools can be supplied. All certificates will be stored in the central TOPKI certificate database. From here they can be efficiently managed with other tools like Secardeo certLife. This ensures full control over the certificates and auditable certificate management processes.
The certACME proxy connects with public or private managed CAs or an internal Microsoft CA (ADCS). By this, an organization can easily switch from one CA to a different one.



certACME integrates easily as a Microsoft IIS web application and provides the following features:

- Acts as an ACME server for standard ACME clients
- Supports common web servers and F5 Big-IP server pools
- Validates a web server using a HTTP challenge
- Forwards CSR to a public or private CA
- Optionally enhances CSR with corporate attributes like Organization, Country, OU
- Stores certificates in a local or central SQL database
- Automatically sends configurable notifications to certificate managers and administrators



Backend Parameters

| | |
|---|---|
| CA Name | SwissSign |
| CA Connector | SwissSign |
| Hostname | ra.swisssign.net |
| Port | 443 |
| Path | /ws/cmc |
| CA Certificate | CN=SwissSign G |

Account Parameters

| | |
|---|---|
| SSL Certificate | CN=pseudo: Sec |
| | Import |
| Account Name | secard[redacted]ra |

Database

| | | | |
|---|---|---|---|
| Driver | MS_ODBC Driver 13 for SQL Server | | |
| Server | my.database.server | | □ Windows Authentication |
| Port | 1433 | User | root |
| Database | myDatabase | Password | ●●●●●●●●●●●● |

E-Mail

| | | | |
|---|---|---|---|
| SMTP Host | my.smtphost.com | Port | 25 □ Use SSL |
| From | admin@secardeo.com | To | notification@secardeo.com |
| | ☑ Authentication required | | |
| Username | admin@secardeo.com | | |
| Password | ******************* | | |

Challenge Validation

☑ HTTP Challenge Validation

**Operating Systems:**
- Windows Server 2016
- Windows Server 2019

**SW Requirements:**
- MS IIS v10.0
- .NET Framework 4.7 or higher
- .NET Core 3.1 or higher

**Databases:**
- MySQL Server v5.7.14 or higher
- Microsoft SQL Server 2016 or higher
- SQLite3 (local only)

**Standards:**
- X.509 certificates RFC 5280
- PKCS#10 RFC 2986
- ACME v2 RFC 8555

**Supported ACME Clients:**
- Certbot
- Lego
- Acme.sh
- Win-ACME
- Dehydrated

For further clients please ask us.

**Supported CA Backends:**
- AWS ACM PCA
- QuoVadis CA
- SwissSign CA
- Windows AD CS
- Windows Standalone CA

For further CAs, please ask us.