python-certsrv

Release 1.0.0

Deric Degagne

Dec 16, 2021

CONTENTS

A Python client for the Active Directory Certificate Services Web Enrollement service. Provides a convenient interface to create and retrieve certificates from the ADCS server.

CHAPTER

ONE

INSTALLATION

To install the *python-certsrv* client, use pip:

Listing 1: Bash

```
pip install python-certsrv
```

CHAPTER

TWO

DOCUMENTATION

2.1 certsrv

class certsrv.**Certsrv**(*server: str*, *username: str*, *password: str*, *auth_method: str = 'basic'*, *cafile: Optional[str] = None*)

Bases: object

Microsoft Active Directory Certificate Services.

This class provides an interface into the Certification Authority Web Enrollment service, to create and retrieve certificates from the Active Directory Certificate Servers (ADCS).

Parameters

- **server** – The FQDN of the Active Directory Certificate Service server.
- **username** – The username for authentication
- **password** – The password for authentication
- **auth_method** – The authentication method. Either 'basic' or 'ntlm'. Defaults to 'basic'.
- **cafile** – A PEM file containing the CA certificates. Defaults to a filesystem path defined by the OpenSSL library.

get_ca_cert(*encoding: str = 'b64'*) → str

Get the latest CA certificate from the ADCS server.

Parameters **encoding** – The desired encoding for the returned certificate.

Returns The latest CA certificate.

Raises **CertificateRetrievalError** – If the certificate cannot be retrieved.

get_ca_chain(*encoding='b64'*) → str

Get the CA chain from the ADCS server.

Parameters **encoding** – The desired encoding for the returned certificate.

Returns The CA chain in PKCS#7 format.

Raises **CertificateRetrievalError** – If the certificate cannot be retrieved.

get_cert(*csr: bytes*, *template: str*, *encoding='b64'*) → str

Requests a certificate from the ADCS server.

Parameters

- **csr** – The certificate signing request (CSR) to submit.
- **template** – The certificate template the certificate should be issued from.

- **encoding** – The desired encoding for the returned certificate.

Returns The issued certificate.

Raises

- **CertificatePendingError** – The request needs to be approved by the CA admin.
- **RequestDeniedError** – The request was denied by the ADCS server.

get_existing_cert(*req_id: int*, *encoding: str = 'b64'*) → str

Get an already created certificate from the ADCS server.

Parameters

- **req_id** – The request ID to retrieve.
- **encoding** – The desired encoding for the returned certificate.

Returns The issued certificate.

Raises **CertificateRetrievalError** – If the certificate cannot be retrieved.

2.2 Examples

Generate certificate from certificate signing request (CSR) file.

Listing 1: Python

```python
from pathlib import Path
from certsrv import Certsrv


csr = Path("/path/to/csr/file.csr").read_bytes()
template = "CertTemplate"

ca = Certsrv("someserver.com", "jsmith", "securepassword!", "ntlm")
cert = ca.get_cert(csr, template)
```

INDEX

C

G