

KMIP Server (PyKMIP)

- Install Python3, the Python package manager and dependencies:

```
sudo apt update
sudo apt install python3 python3-pip python3-venv libssl-dev libffi-dev
python3-dev libsqlite3-dev
```

- Verify the installation:

```
pip3 --version
```

- Create a virtual environment and activate it:

```
python3 -m venv pykmip-env
source pykmip-env/bin/activate
```

- To deactivate the virtual environment, enter deactivate within the virtual environment
- To manage packages you can use:

```
pip3 install package_name
pip3 install --upgrade package_name
pip3 uninstall package_name
```

- Once inside your virtual environment, upgrade pip and install the pykmip library:

```
pip install --upgrade pip
pip install pykmip
```

- Verify the installation:

```
python3 -c "import kmip; print(kmip.__version__)"
```

- Create folder /var/log/pykmip with ownership root:user and permissions 770
- Start the server:

```
pykmip-server
```

- Create the certificates as described in [KMIP for key management](#) and copy them to /home/user/certs/. The keys generated through the Synology script are valid for 10 years.
- Create the configuration file /home/user/pykmip-env/server.conf:

```
[server]
host = 0.0.0.0
port = 5696
certificate_path = ./certs/server.pem
key_path = ./certs/server-key.pem
ca_path = ./certs/ca.pem
auth_suite = TLS1.2
logging_level = INFO
```

```
database_path=/var/lib/pykmip/pykmip.db
```

- Create folder `/etc/pykmip/` and establish a symbolic link to the server configuration:

```
ln -s /home/user/pykmip-env/server.conf /etc/pykmip/server.conf
```

- Add a firewall rule to allow port 5696:

```
sudo ufw allow from client.wan.ip.addr to any port 5696 proto tcp
```

- To automate setting up and activating a Python virtual environment, use `direnv`:

```
sudo apt update
sudo apt install direnv
```

- Hook `direnv` to your shell by adding the following line to your shell configuration file as first instruction in the file:

```
vim ~/.bashrc
eval "$(direnv hook bash)"
```

- Create a config file inside the project folder telling `direnv` to load Python:

```
echo "layout python" > ~/pykmip-env/.envrc
```

- Authorize the script to run safely:

```
direnv allow
```

- Logout then login and `cd` to `~/pykmip-env/` then start the KMIP Server in the background:

```
cd ~/pykmip-env
pykmip-server&
```

- It is better not to add the server to `systemd`, so you start and stop consciously. To stop the server, find its process id then kill the process gracefully:

```
ps aux | grep kmip
sudo kill -TERM <pid>
```

`ps` will list 3 processes, it is sufficient to kill the first one listed

From:

<https://wiki.condrau.com/> - **Bernard's Wiki**

Permanent link:

https://wiki.condrau.com/deb13:kmip_server_pykmip

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