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Installing a root CA certificate in the trust store

Enterprise environments sometimes have a local Certificate Authority (CA) that issues certificates for use within the organization. For an Ubuntu server to be functional and trust the hosts in this environment this CA must be installed in Ubuntu's trust store.

How to recognize the form (PEM or DER)?

To install a certificate in the trust store it must be in PEM form. A PEM-formatted certificate is human-readable in base64 format, and starts with the lines `----BEGIN CERTIFICATE----`. If you see these lines, you're ready to install. If not, it is most likely a DER certificate and needs to be converted.

Installing a certificate in PEM form

Assuming a PEM-formatted root CA certificate is in `local-ca.crt`, follow the steps below to install it.

Note: It is important to have the `.crt` extension on the file, otherwise it will not be processed.

```
$ sudo apt-get install -y ca-certificates
$ sudo cp local-ca.crt /usr/local/share/ca-certificates
$ sudo update-ca-certificates
```

After this point you can use Ubuntu's tools like `curl` and `wget` to connect to local sites.

Converting from DER-form to PEM-form

Convert a DER-formatted certificate called `local-ca.der` to PEM form like this:

```
$ sudo openssl x509 -inform der -outform pem -in local-ca.der -out local-ca.crt
```

The CA trust store location

The CA trust store as generated by `update-ca-certificates` is available at the following

locations:

- As a single file (PEM bundle) in `/etc/ssl/certs/ca-certificates.crt`
- As an OpenSSL compatible certificate directory in `/etc/ssl/certs`

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