How to Create Certificates with XCA

https://campus.barracuda.com/doc/28475773/

When certificate-based authentication is required, you must have three types of X.509 certificates that come with a valid chain of trust:

- The trust anchor is the Certificate Authority (CA) signed root certificate.
- The server certificate for the Barracuda Networks appliance (e.g., Barracuda CloudGen Firewall).
- The client certificate for the VPN device (e.g., Barracuda VPN Client and iOS device).

If CA-signed X.509 certificates are not available, you can use self-signed certificates instead. These certificates must also have a valid chain of trust. Typically, X.509 certificates are created through a Public Key Infrastructure (PKI) that allows creating, signing, or revoking certificates. Examples of PKIs that you can use include Microsoft's PKI with Active Directory and **XCA - X Certificate and key management**. This article provides instructions on how to create certificates required for a complete chain of trust with XCA version 0.9.3 (September 2013).

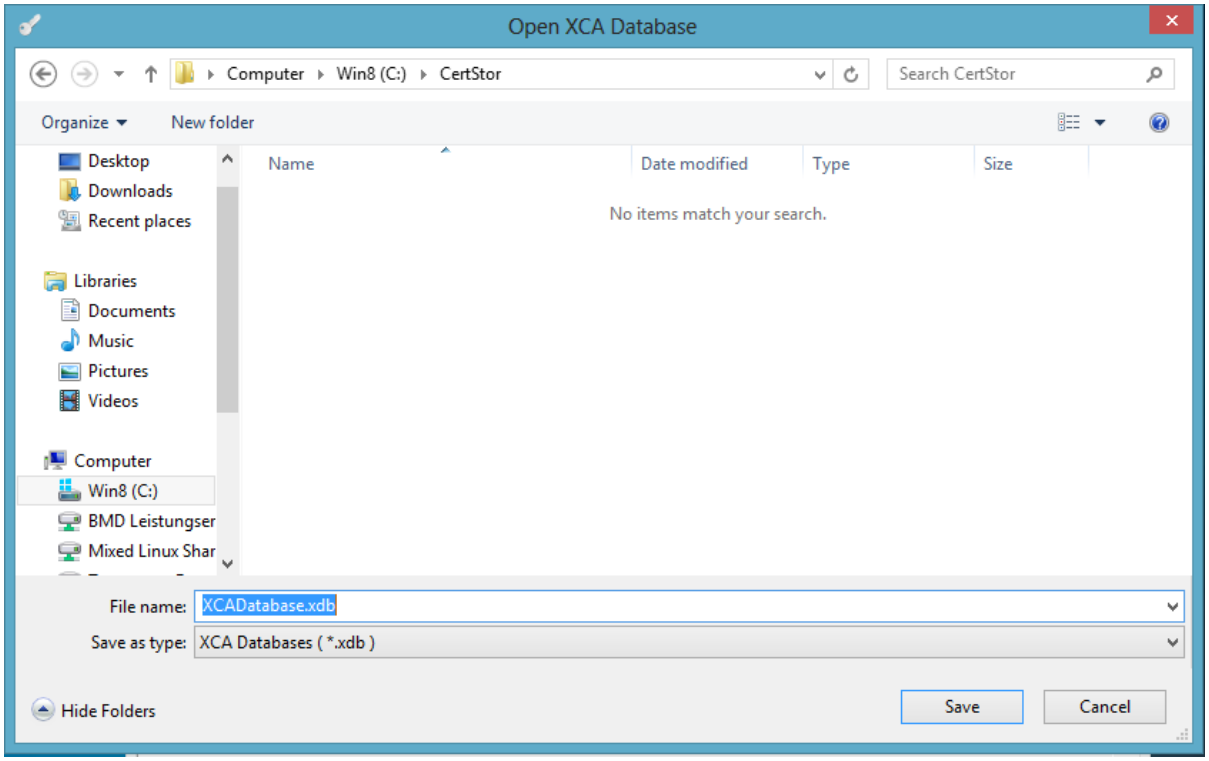
Download and Install XCA

1. Download XCA from http://sourceforge.net/projects/xca/.
2. Install XCA. You must have administrative rights.

Create an XCA Database

Each CA is stored in an XCA database file (*.xdb). Use one XCA database for every PKI that you want to create.

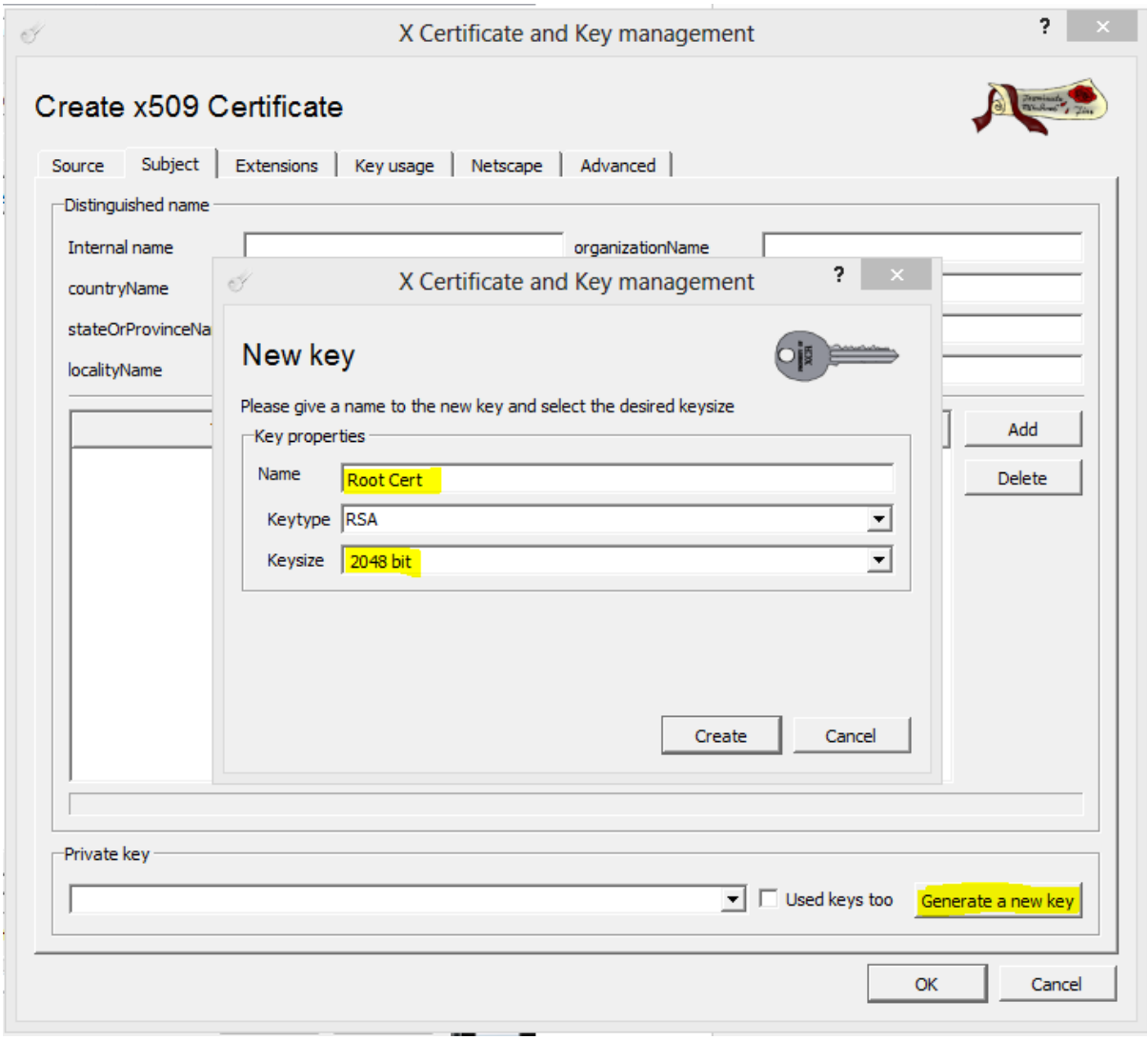
1. Click **File > New Database**.
2. In the **Open XCA Database** window, enter the name for the XCA database and then click **Save**.
3. In the **New Password** window, enter a password to encrypt the private keys in the database file. You must enter this password whenever you open the XCA database.



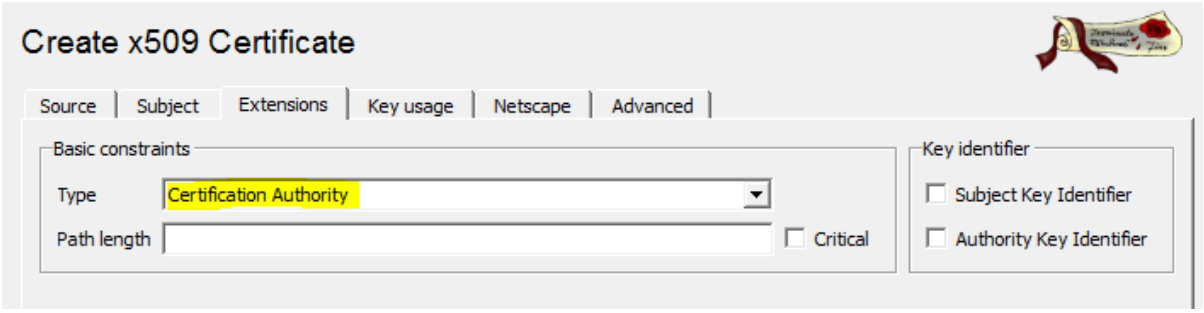
Create the Root Certificate

The root certificate or CA is the trust anchor in the chain-of-trust. To create the root certificate:

1. Click the **Certificates** tab, and then click **New Certificate**. The **Create X509 Certificate** window opens.
2. Configure the identifying information.
    1. Click the **Subject** tab.
    2. Configure the settings in the **Distinguished name** section.
    3. Click **Generate a new key**.
    4. In the **New Key** window, enter a name for the certificate, select a key size, and then click **Create**.



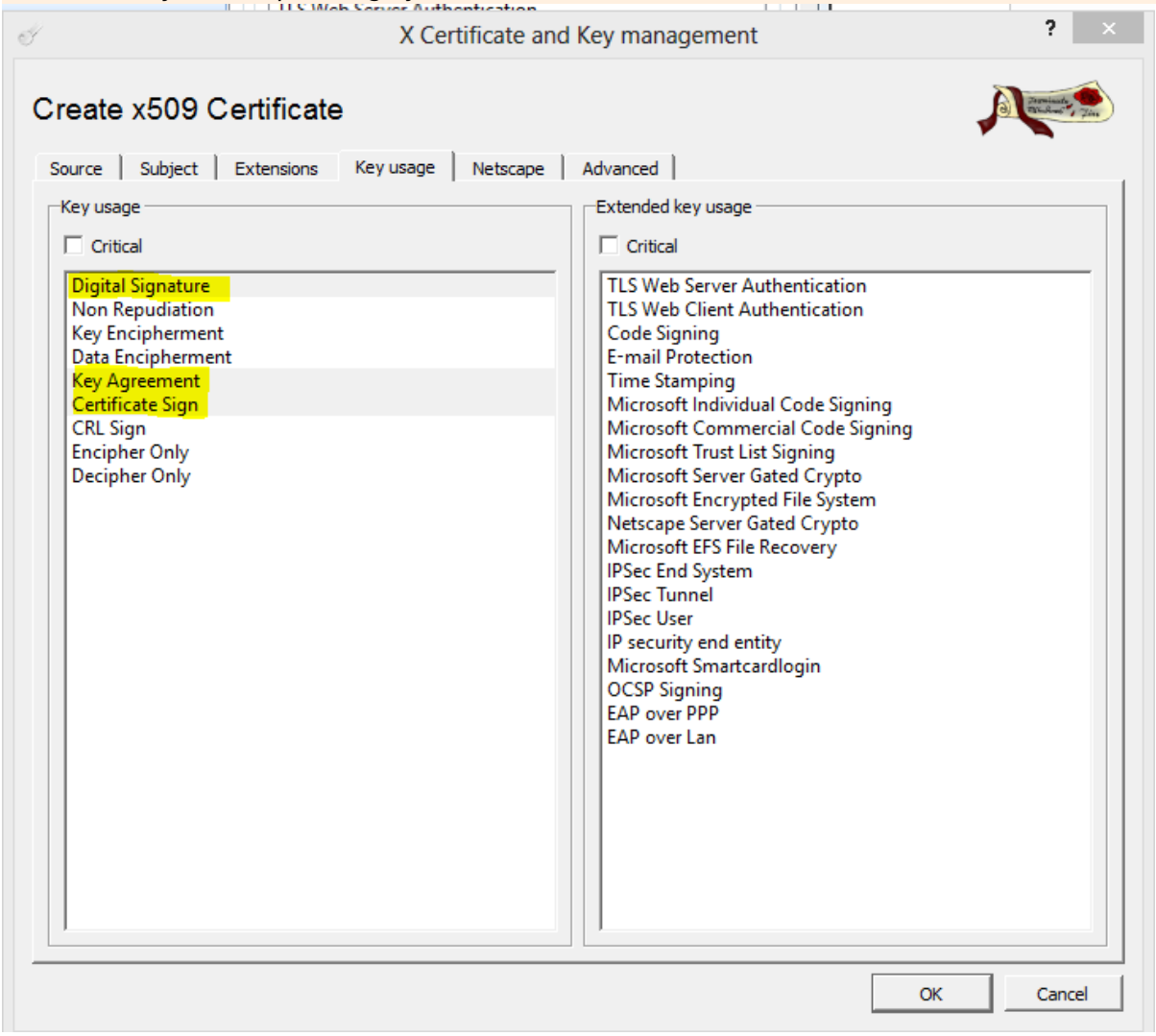
3. Configure the X.509 extensions.
    1. Click the **Extensions** tab.
    2. From the **Type** list, select **Certification Authority**.



    3. (Optional) Modify the **Validity** dates for the certificate. Usually, certificates are valid from five to ten years.
4. Configure the key usage.
    1. Click the **Key usage** tab.
    2. From the left pane, select the following items:
        - **Digital Signature**
        - **Key Agreement**

- **Certificate Sign**

Do not choose any other key usage settings; otherwise, the certificates might be refused by some operating systems.

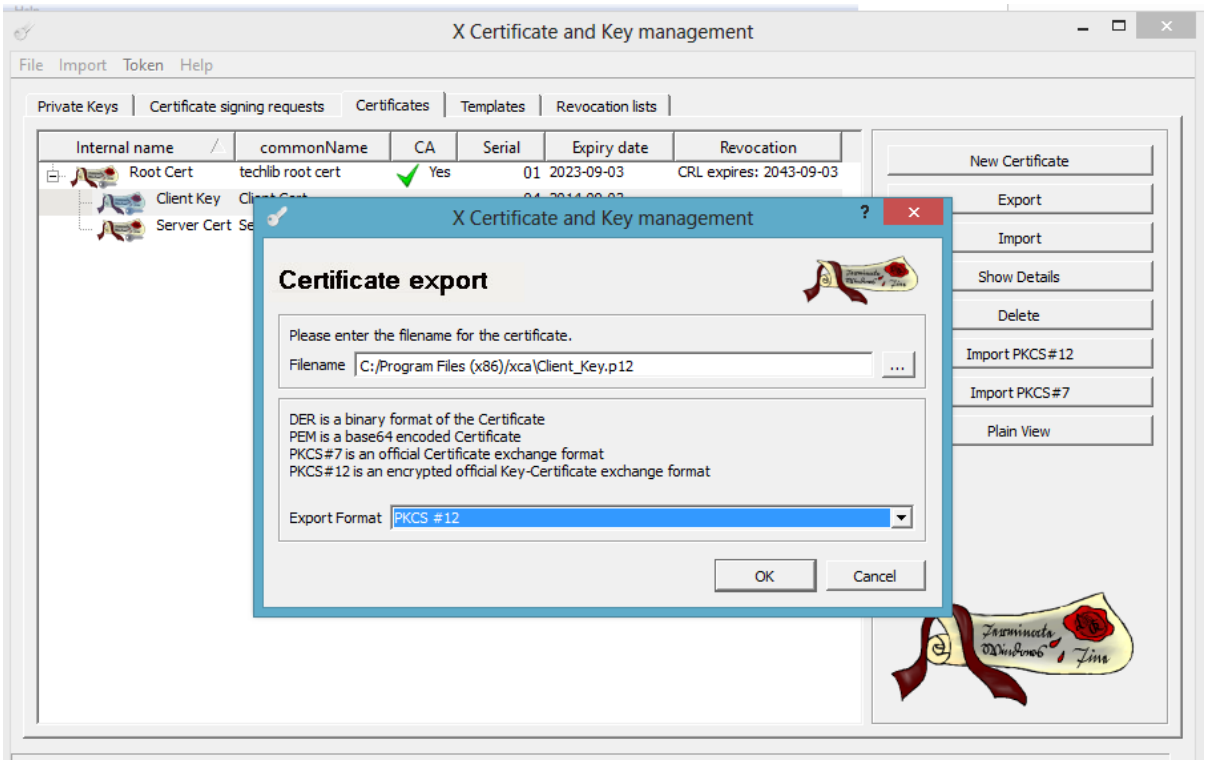


5. Click **OK** to create the certificate. It then appears under the **Certificates** tab.

Export the Root Certificate

You must export the root certificate as a PEM file.

1. Click the **Certificates** tab.
2. Select the root certificate and then click **Export**.
3. In the **Certificate Export** window, select **PEM** from the **Export Format** list and then click **OK**.



Next Steps

Create the certificates that are required by services for X.509 authentication. For instructions on how to create certificates for specific services, see the following table:

Service	Instructions
Client-to-Site VPN	To create certificates for a client-to-site VPN, go to How to Create Certificates for a Client-to-Site VPN.
SIP Proxy	To create a SSL certificate to encrypt SIP data, go to How to Create Certificates for the SIP Proxy.

Figures

1. create_xca_database.PNG
2. generate_new_key.PNG
3. extension_select_CA.PNG
4. key_usage.PNG
5. cert_exp.jpg