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## How to Create Certificates for a Client-to-Site VPN

<https://campus.barracuda.com/doc/29819544/>

Client-to-site VPNs need X.509 certificates to authenticate.

Follow the instructions in this article to create a server and client certificate with XCA for use with a client-to-site IPsec VPN.

### Before You Begin

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Create and export a root certificate in PEM format. For instructions, see [How to Create Certificates with XCA](#).

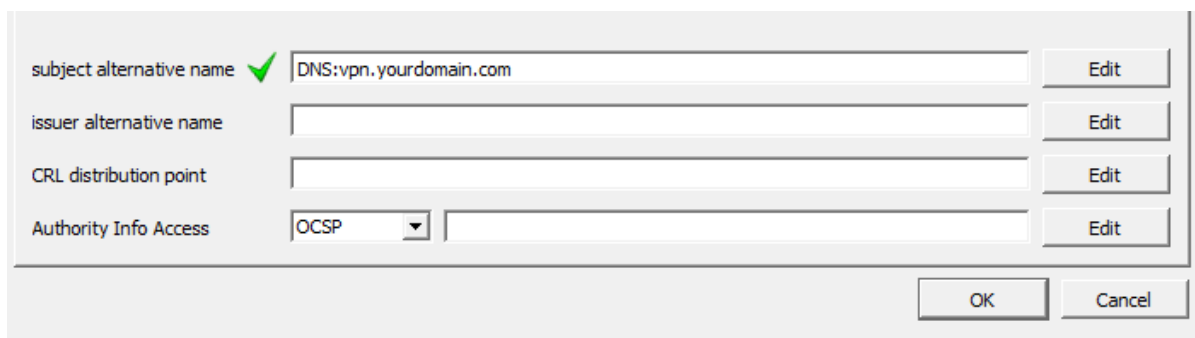
### Step 1. Create a Server Certificate

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To create the server certificate:

1. In XCA, click the **Certificate signing requests** tab, and then click **New Request**. The **Create Certificate Signing Request** 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 **Not defined**.
  3. (Optional) Modify the **Validity** dates for the certificate.
  4. In the **subject alternative name** field, enter `DNS:vpn.yourdomain.com`. The hostname must resolve to the IP address that the VPN service is listening on.

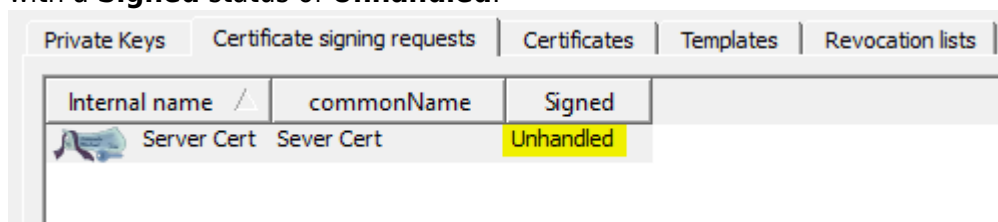
As an alternative, iOS also supports the use of wildcards in the **subject alternative name**: `DNS:*`



subject alternative name ✓	DNS:vpn.yourdomain.com	Edit
issuer alternative name		Edit
CRL distribution point		Edit
Authority Info Access	OCSP	Edit

OK Cancel

4. Configure the key usage.
  1. Click the **Key usage** tab.
  2. From the left pane, select the following options:
    - **Digital Signature**
    - **Key Agreement**
    - **Certificate Sign**
5. Click **OK** to create the certificate. It then appears under the **Certificate signing requests** tab with a **Signed** status of **Unhandled**.

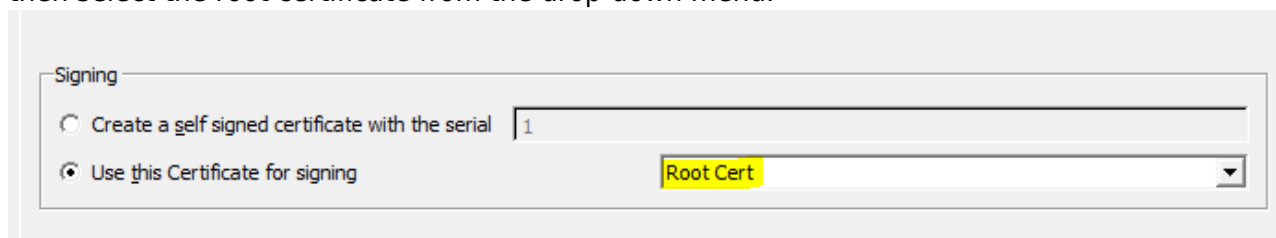


Private Keys	Certificate signing requests	Certificates	Templates	Revocation lists
Internal name	commonName	Signed		
Server Cert	Sever Cert	Unhandled		

## Step 2. Sign the Server Certificate

To sign the server certificate:

1. Click the **Certificate signing requests** tab.
2. Right-click the server certificate and then click **Sign**. The **Create x509 Certificate** window opens.
3. In the **Signing** section under the **Source** tab, select **Use this Certificate for signing** and then select the root certificate from the drop-down menu.



Signing

Create a self signed certificate with the serial 1

Use this Certificate for signing **Root Cert**

4. Click **OK** to sign the certificate. It then appears under the **Certificate signing requests** tab with the status of **Signed**.

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### Step 3. Create a Client Certificate

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To create a client certificate:

1. Click the **Certificate signing requests** tab, and then click **New Request**. The **Create Certificate Signing Request** window opens.
2. Configure the identifying information.
  1. Click the **Subject** tab.
  2. Configure the settings in the **Distinguished name** section.
  3. 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 **Key usage** tab.
  2. From the left pane, select **Digital Signature**.
  3. From the right pane, select **TLS Web Client Authentication**.
4. Click **OK** to create the certificate. It then appears under the **Certificate signing requests** tab with a **Signed** status of **Unhandled**.

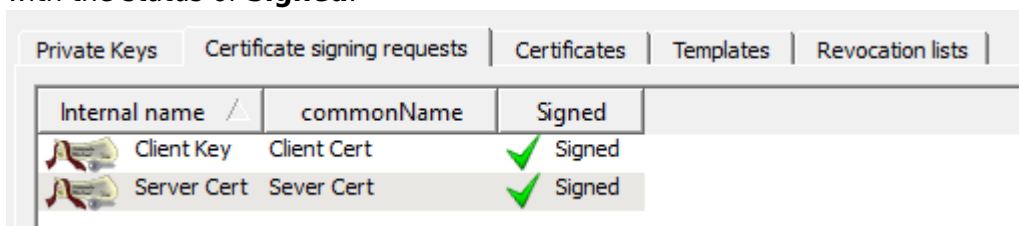
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### Step 4. Sign the Client Certificate

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To sign the client certificate:

1. Click the **Certificate signing requests** tab.
2. Right-click the client certificate and then click **Sign**. The **Create x509 Certificate** window opens.
3. In the **Signing** section under the **Source** tab, select **Use this Certificate for signing** and then select the root certificate from the drop-down menu.
4. Click **OK** to sign the certificate. It then appears under the **Certificate signing requests** tab with the status of **Signed**.



Internal name	commonName	Signed
 Client Key	Client Cert	✓ Signed
 Server Cert	Sever Cert	✓ Signed

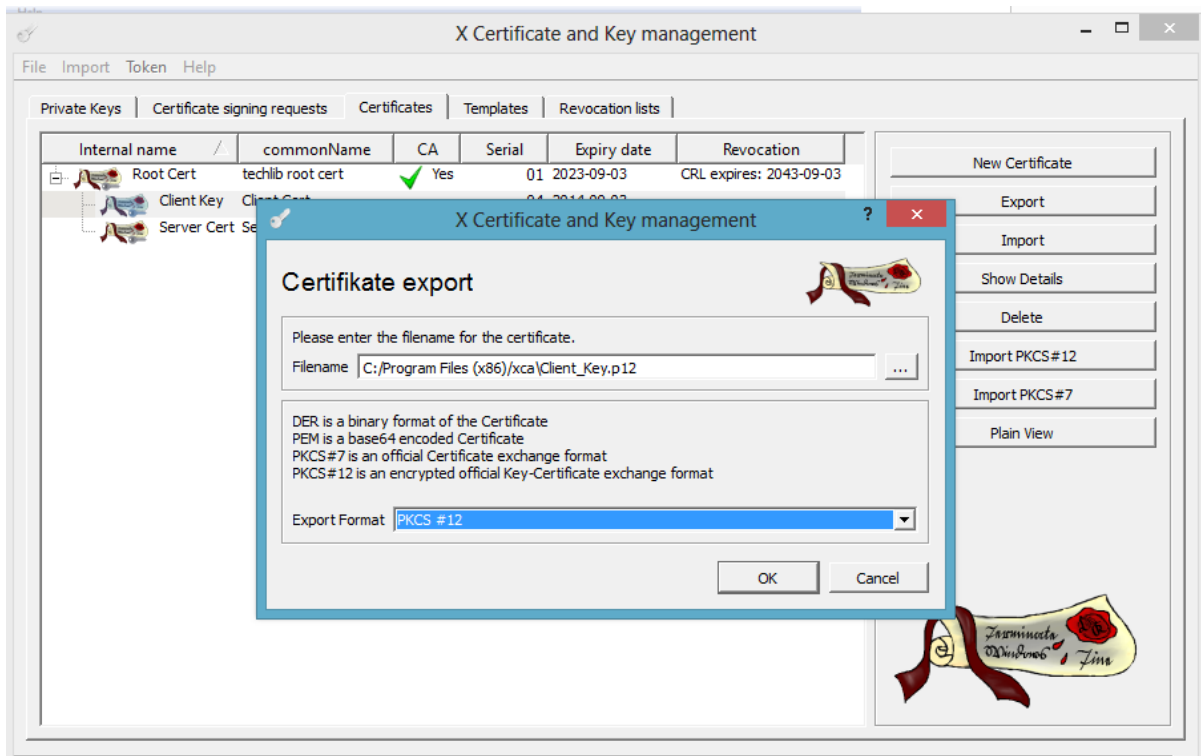
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### Step 5. Export the Client and Server Certificates

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You must export the client and server certificates as PKCS#12 files.

1. Click the **Certificates** tab.
2. Select the certificate that you want to export and then click **Export**.
3. In the **Certificate Export** window, select **PKCS #12** from the **Export Format** list and then click **OK**.



## Next Steps

You can import the certificates on the Barracuda NextGen Firewall X, Barracuda CloudGen Firewall, and clients that need X.509 certificates. For Windows clients, you can use an Active Directory Policy to distribute the certificates automatically. On iOS and Android, certificates must be imported manually or by the Mobile Device Management platform.

The following table lists the certificates that are required on each appliance or device:

Appliance or Device	Required Certificates
Barracuda CloudGen Firewall	<ul style="list-style-type: none"> <li>• Root certificate</li> <li>• Server certificate</li> </ul>
Barracuda NextGen Firewall X	<ul style="list-style-type: none"> <li>• Root certificate</li> <li>• Server certificate</li> </ul>
Client	Client certificate

## Figures

1. sub\_alt\_name\_server\_cert.PNG
2. server\_cert\_unsigned.PNG
3. choose\_root\_cert.PNG
4. keys\_signed.PNG
5. export\_client\_cert.PNG

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