OpenVPN

, OpenVPN . http://habrahabr.ru/company/aktiv-company/blog/137306/.

1. USB- .
2. USB- :

```
$ lsusb
```

USB-:

```
[dmitrieva@localhost ~]$ lsusb
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 004: ID 0a89:0030 Aktiv Rutoken ECP
Bus 002 Device 003: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 002 Device 002: ID 0e0f:0003 VMware, Inc. Virtual Mouse
Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
```

, : **Aktiv Rutoken ECP**

, , . Ubuntu-12.10-desktop-i386.

1. :

```
$ sudo apt-get install pcscd libpcsclite1 libccid
```

2. XCA:

```
$ sudo apt-get install xca
```

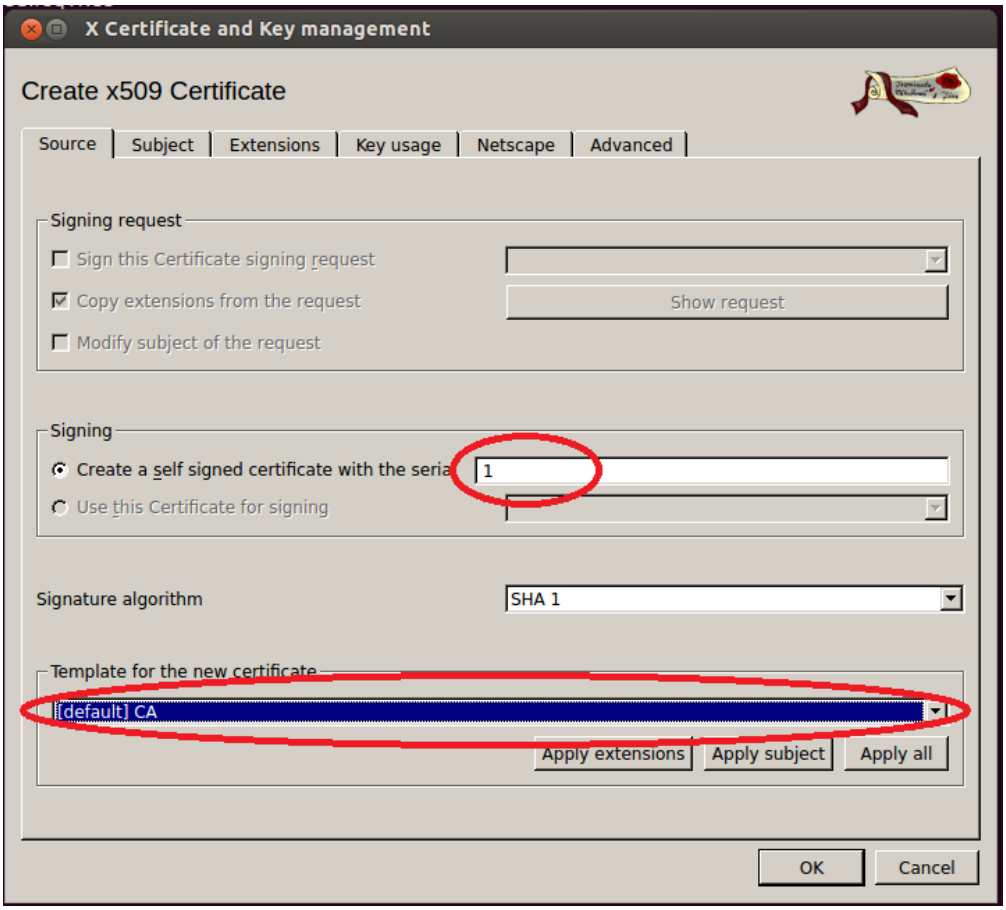
3. XCA:

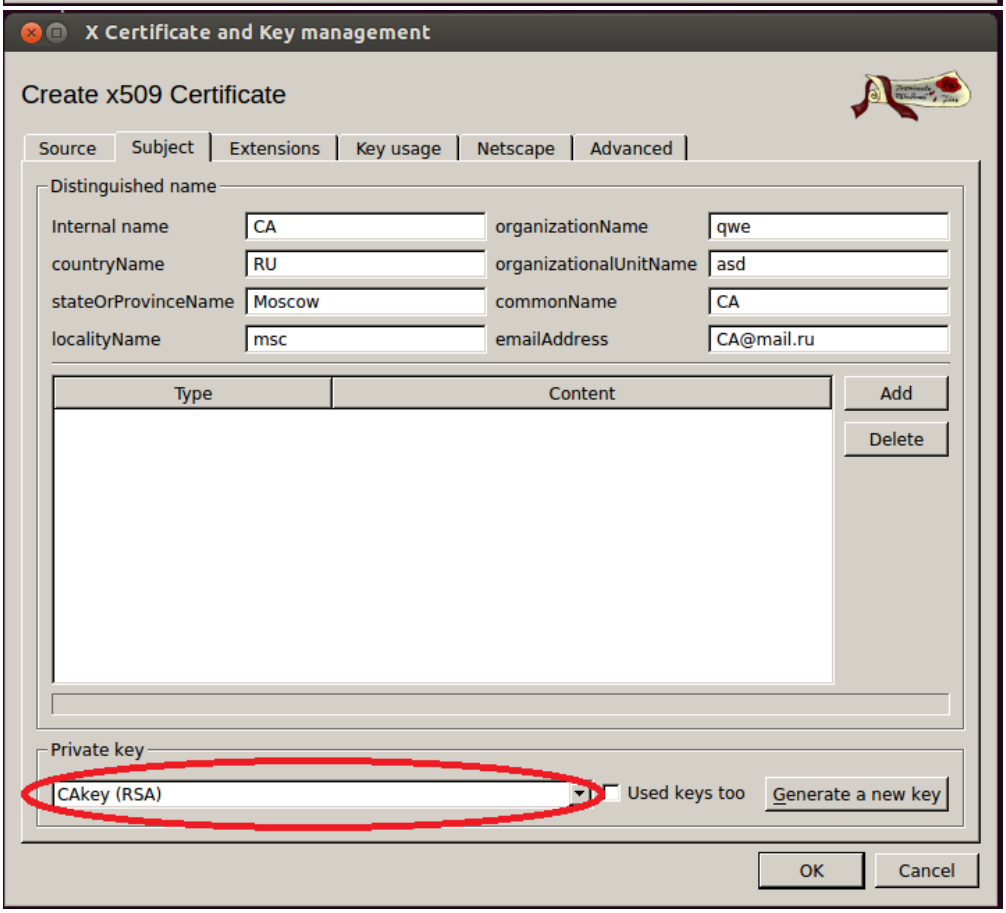
```
$ sudo xca
```

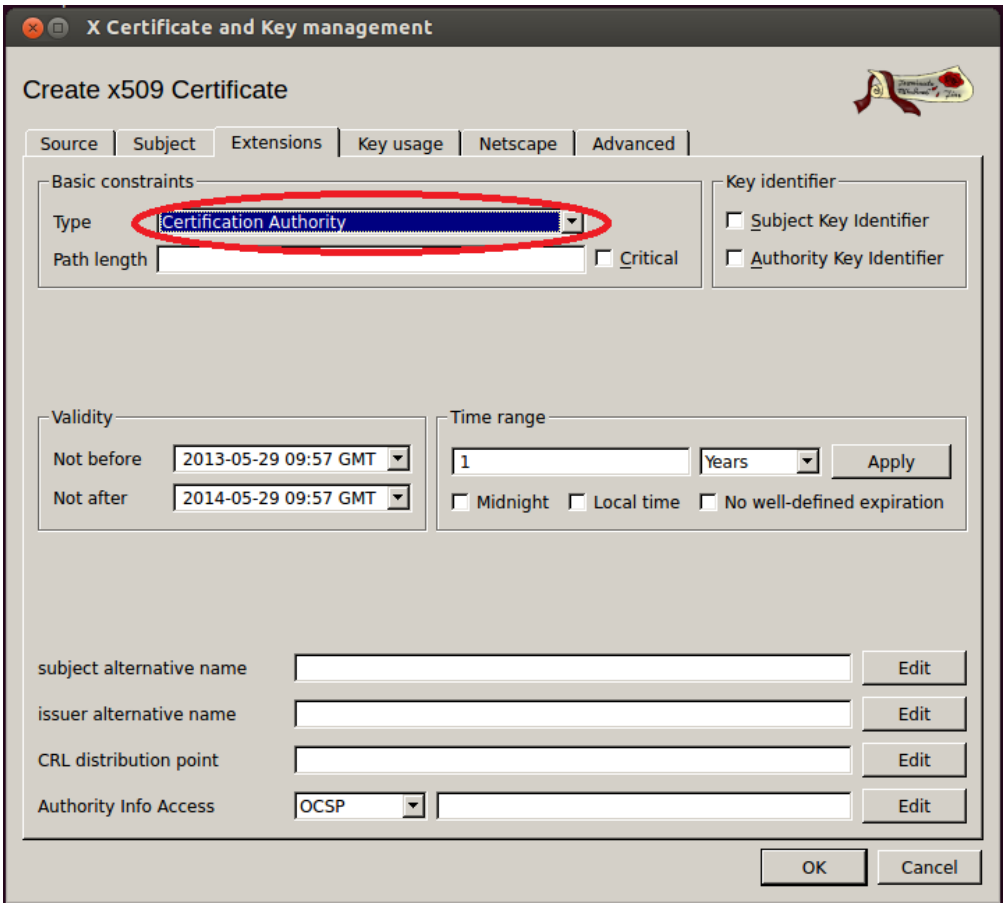
3.1 *File->New Database.*

3.2 : *Private Keys->New Key*, CAkey, *Keytype* RSA, *Keysize* 2048 bit.

: *Certificates->New Certificate* .

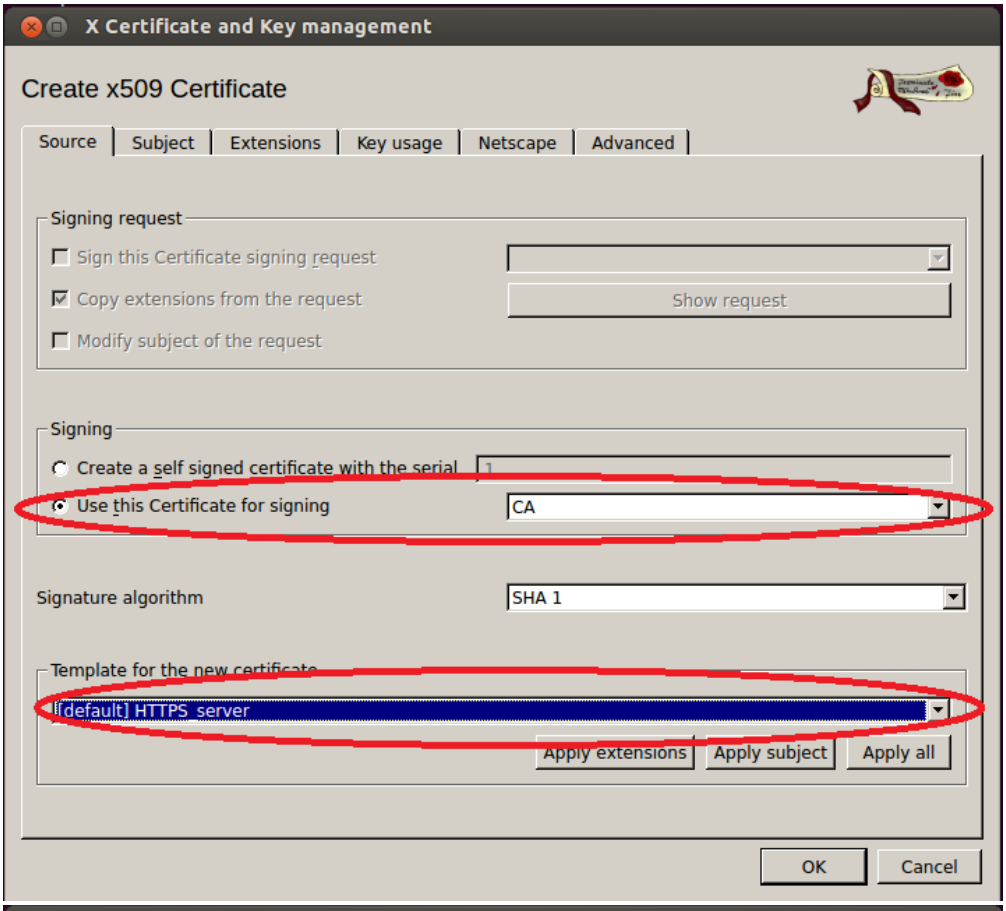

X Certificate and Key management
Create x509 Certificate
Source
Subject
Extensions
Key usage
Netscape
Advanced
Signing request
Sign this Certificate signing request
Copy extensions from the request
Show request
Modify subject of the request
Signing
Create a self signed certificate with the seria
1
Use this Certificate for signing
Signature algorithm
SHA 1
Template for the new certificate
[default] CA
Apply extensions
Apply subject
Apply all
OK
Cancel

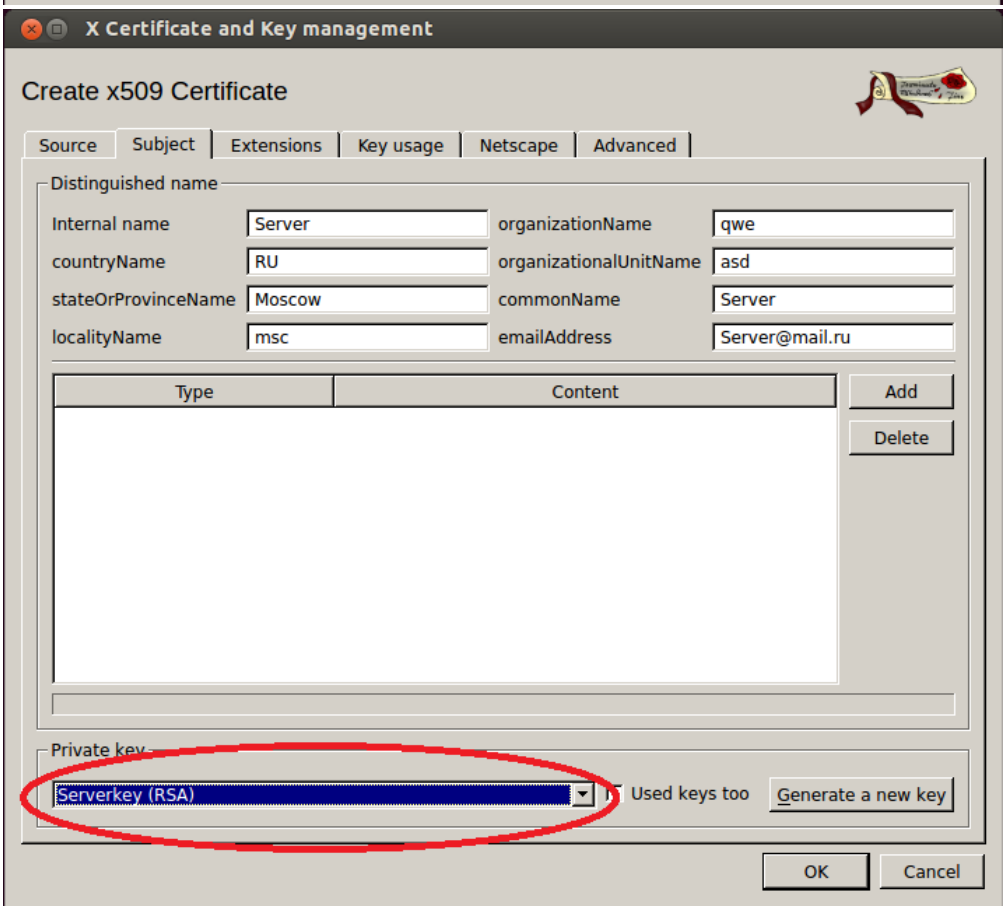

X Certificate and Key management
Create x509 Certificate
Source
Subject
Extensions
Key usage
Netscape
Advanced
Distinguished name
Internal name
CA
organizationName
qwe
countryName
RU
organizationalUnitName
asd
stateOrProvinceName
Moscow
commonName
CA
localityName
msc
emailAddress
CA@mail.ru
Type
Content
Add
Delete
Private key
CAkey (RSA)
Used keys too
Generate a new key
OK
Cancel

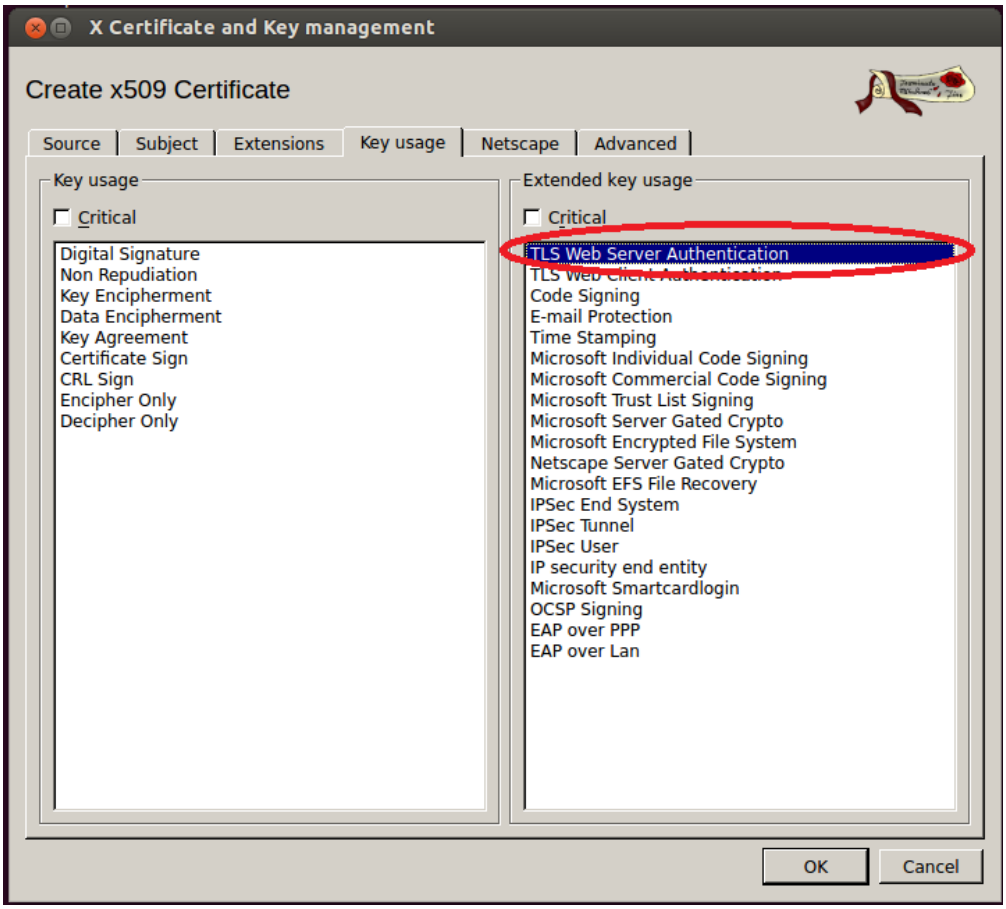


3.3 OpenVPN: *Private Keys-> New Key*, Serverkey, *Keytype* - RSA, *Keysize* - 2048 bit.

: *Certificates->New Certificate* .

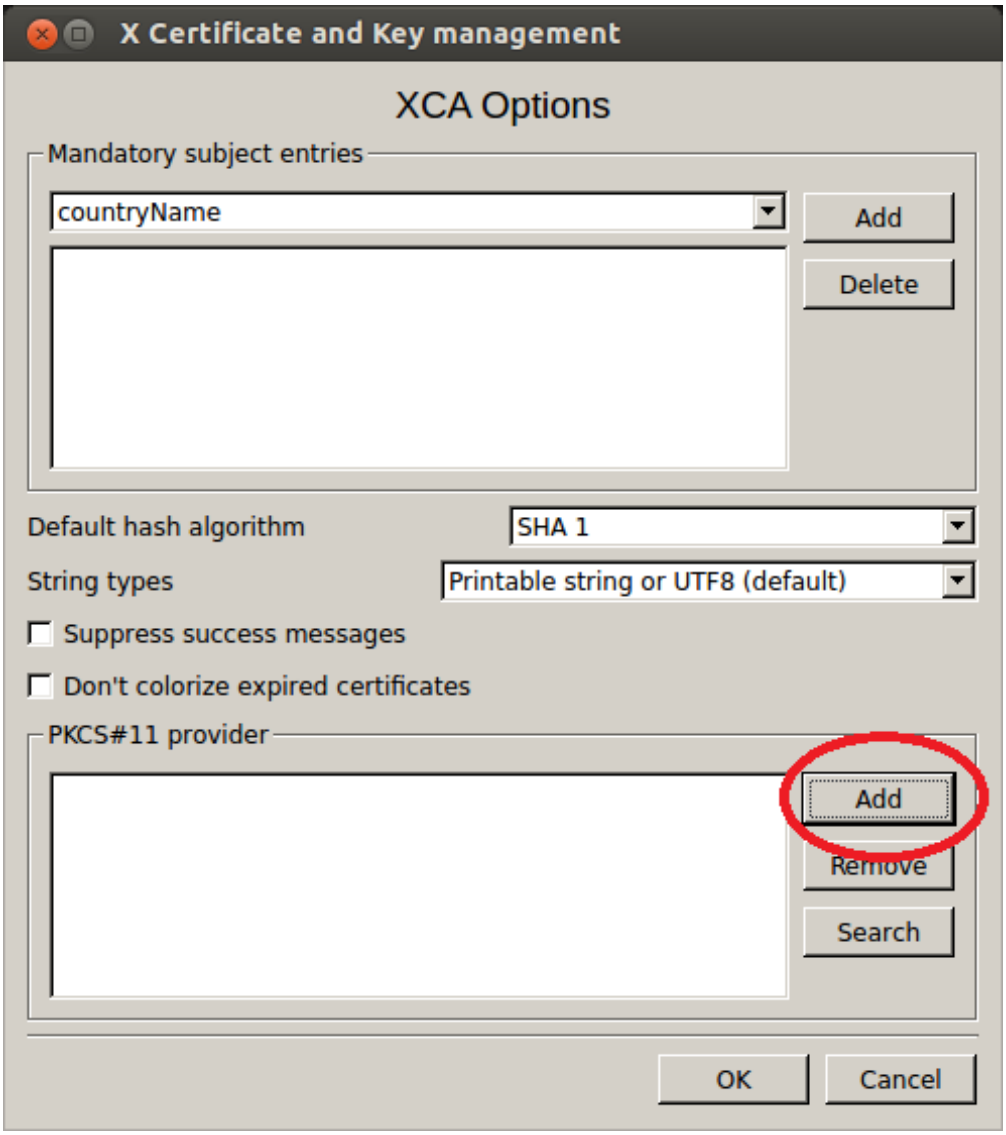

X Certificate and Key management
Create x509 Certificate
Source
Subject
Extensions
Key usage
Netscape
Advanced
Signing request
Sign this Certificate signing request
Copy extensions from the request
Show request
Modify subject of the request
Signing
Create a self signed certificate with the serial
1
Use this Certificate for signing
CA
Signature algorithm
SHA 1
Template for the new certificate
[default] HTTPS server
Apply extensions
Apply subject
Apply all
OK
Cancel


X Certificate and Key management
Create x509 Certificate
Source
Subject
Extensions
Key usage
Netscape
Advanced
Distinguished name
Internal name
Server
organizationName
qwe
countryName
RU
organizationalUnitName
asd
stateOrProvinceName
Moscow
commonName
Server
localityName
msc
emailAddress
Server@mail.ru
Type
Content
Add
Delete
Private key
Serverkey (RSA)
Used keys too
Generate a new key
OK
Cancel

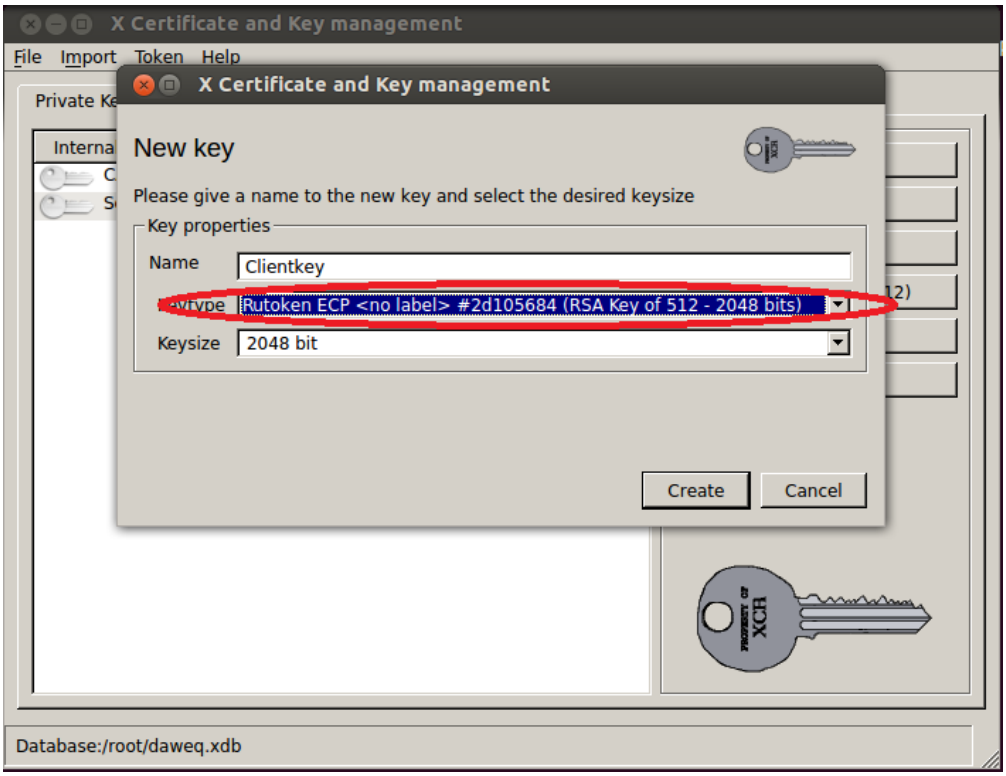


3.4 CA.crt, Serverkey.pem Server.crt (*Private Keys->Export, Certificates->Export*).

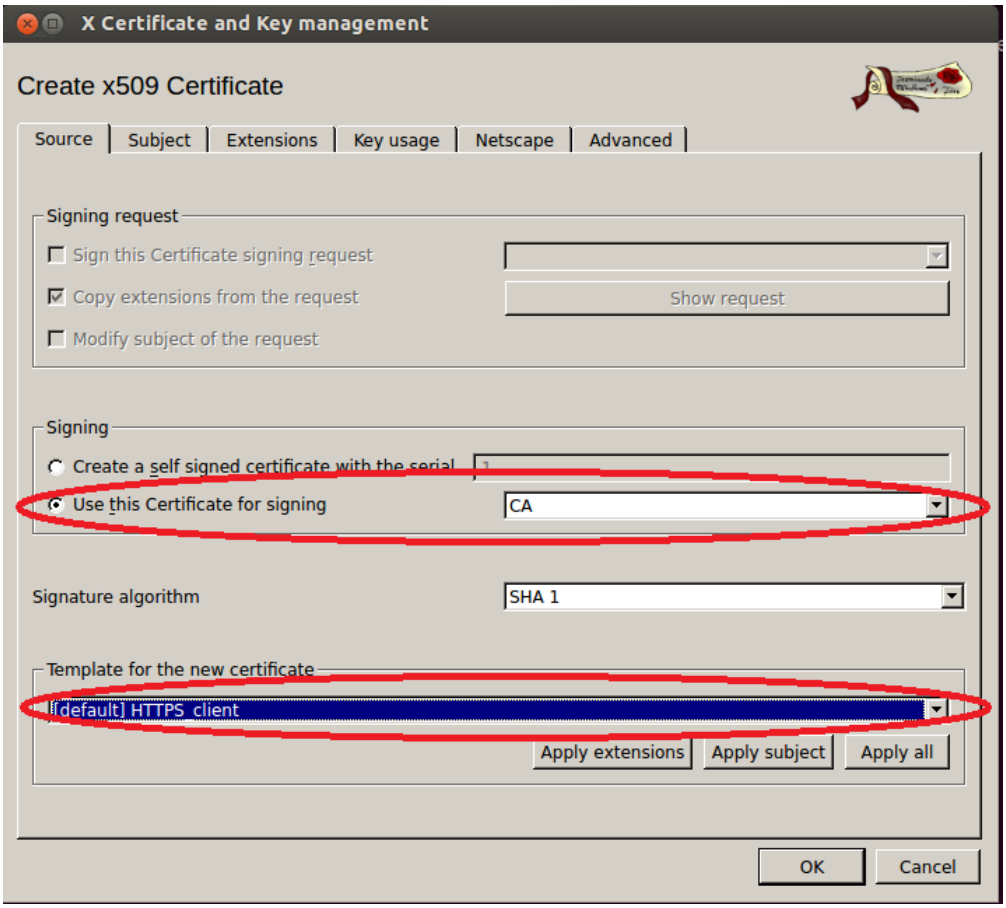
4. PKCS#11. : *File->Options.*

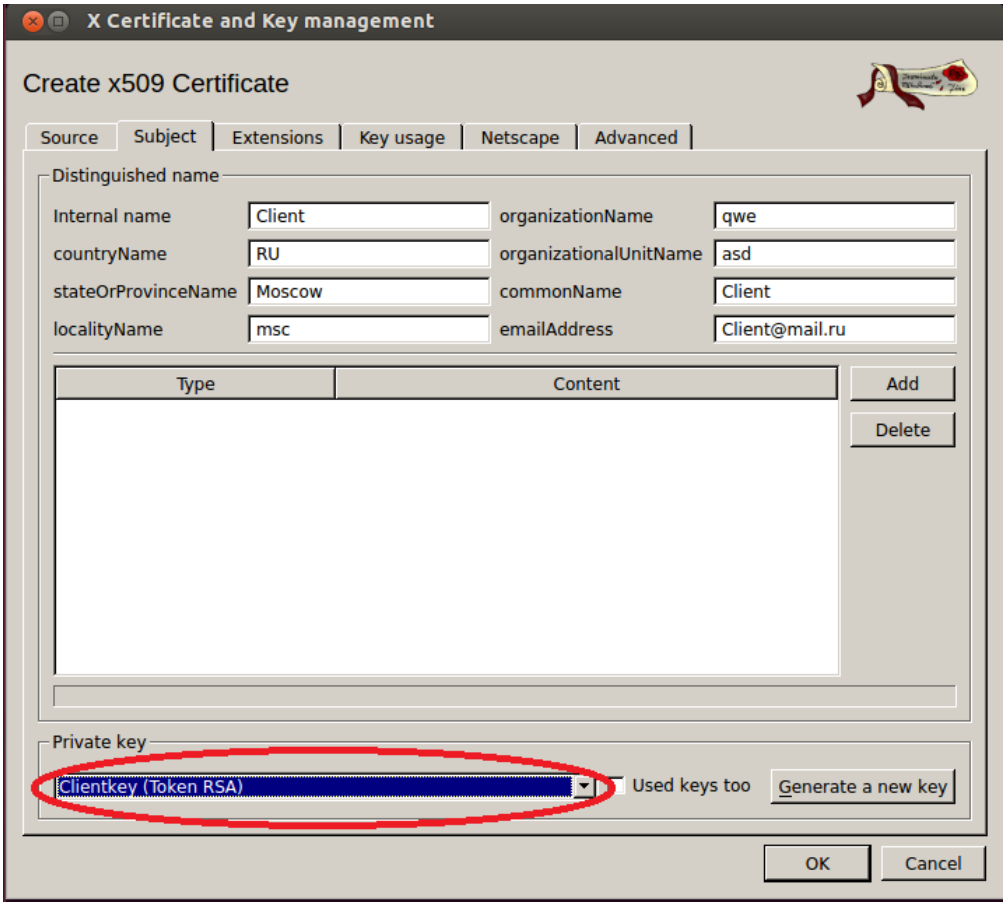


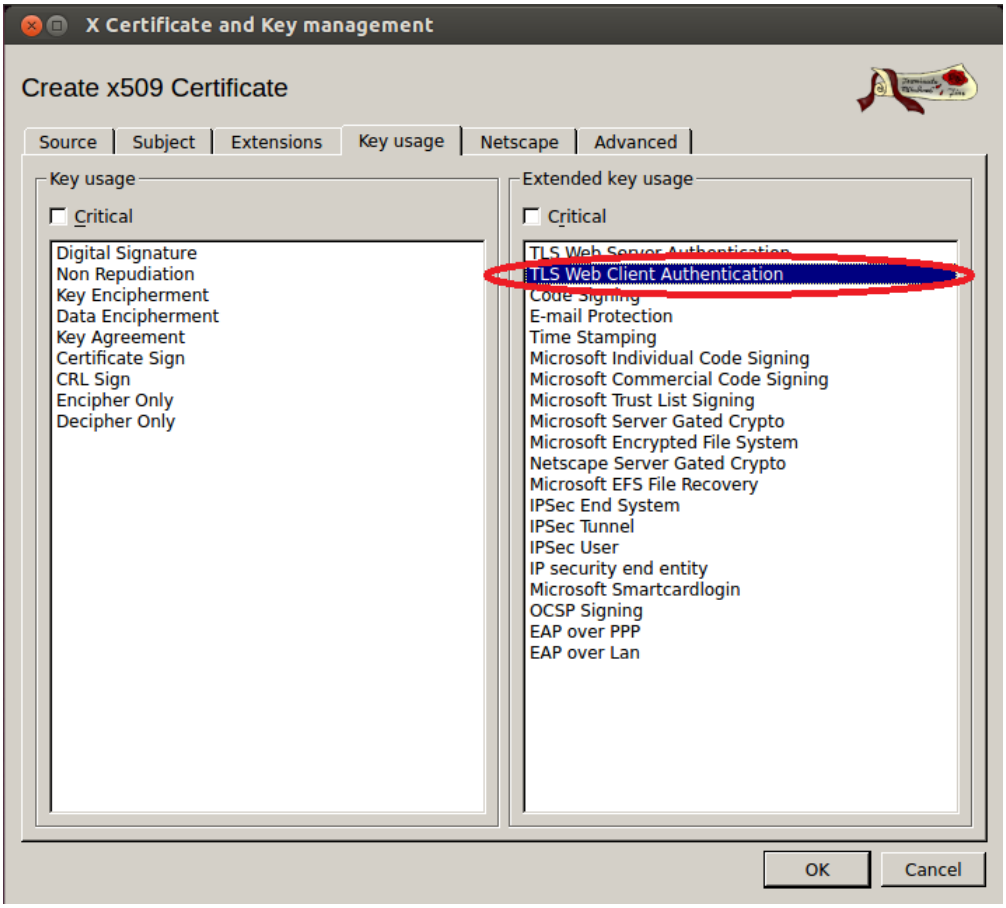
4.1 . « » : *Private Keys -> New Key.* PIN-.


X Certificate and Key management
File Import Token Help
X Certificate and Key management
New key
Please give a name to the new key and select the desired keysize
Key properties
Name
Clientkey
Keytype
Rutoken ECP <no label> #2d105684 (RSA Key of 512 - 2048 bits)
Keysize
2048 bit
Create
Cancel
Database:/root/daweq.xdb

4.2 :


X Certificate and Key management
Create x509 Certificate
Source
Subject
Extensions
Key usage
Netscape
Advanced
Signing request
Sign this Certificate signing request
Copy extensions from the request
Show request
Modify subject of the request
Signing
Create a self signed certificate with the serial
Use this Certificate for signing
CA
Signature algorithm
SHA 1
Template for the new certificate
[default] HTTPS client
Apply extensions
Apply subject
Apply all
OK
Cancel





4.3 XCA , «Yes» PIN-. XCA.

5. OpenVPN:

```
$ sudo apt-get install openvpn
```

6. -:

```
$ openssl dhparam -out dh1024.pem 1024
```

7. OpenVPN:

```
$ nano openvpn.conf
```

, , :

```
port 1194
proto tcp
dev tap

ca /home/asd/CA.crt
cert /home/asd/Server.crt
key /home/asd/Serverkey.pem
dh /home/asd/dh1024.pem

server 10.0.0.0  255.255.255.0
ifconfig-pool-persist ipp.txt

keepalive 10 120

cipher BF-CBC
comp-lzo
persist-key
persist-tun
status openvpn-status.log
verb 3
```

8. OpenVPN:

```
$ sudo openvpn --config /home/asd/openvpn.conf
```

9. , :

```
$ sudo apt-get install pcscd libpcsclite1 libccid
```

10. OpenVPN:

```
$ sudo apt-get install openvpn
```

11. .

```
client
dev tap
proto tcp
remote xxx.xxx.xxx.xxx 1194
resolv-retry infinite
nobind
persist-key
persist-tun

ca /home/qwe/CA.crt
pkcs11-providers /usr/lib/librtpkcs11ecp.so
pkcs11-id 'Aktiv\x20Co\x2E/Rutoken\x20ECP/2d105684/Rutoken\x20ECP\x20\x3Cno\x20label\x3E/C67F8A314C24E080'

pkcs11-pin-cache 300

comp-lzo
verb 3
```

pkcs11-providers PKCS#11.

pkcs11-id ID , . ID :

```
$ openvpn --show-pkcs11-ids [   PKCS#11  ]
```

12. VPN-:

```
$ openvpn --config [   ]
```