

# RSA PFX-

, RSA PFX.

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

1. OpenSSL PFX-:

```
# openssl
OpenSSL> pkcs12 -in newcert.pfx -nocerts -out encrypted.key
```

2. :

```
OpenSSL> pkcs12 -in newcert.pfx -nokeys -out cert.pem
```

3. DER:

```
OpenSSL> x509 -in cert.pem -out cert.crt -outform DER
OpenSSL> rsa -in encrypted.key -out key.der -outform DER
```

4. :

```
# pkcs11-tool --module /usr/lib/librtpkcs11ecp.so -l -y privkey -w key.der --id 10 --label Rutoken1
```

5. \*.CRT :

```
# pkcs11-tool --module /usr/lib/librtpkcs11ecp.so -l -y cert -w cert.crt --id 10 --label Rutoken1
```