

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



IKEv2 EAP-TLS

IKEv2 with user authentication requires the use of certificates. You can use the NCP demo certificates to establish a VPN connection.

IKEv2 requires EAP for user authentication. SRX cannot act as EAP server. For IKEv2 EAP an external RADIUS server MUST do the EAP authentication. SRX will act as a pass-through authenticator relaying EAP messages between the VPN client and RADIUS server.

You can use the NCP Secure Enterprise Management Server as a RADIUS server to authenticate users.

EAP requires a PKI. You can use the NCP demo certificates (public/private key pair) to test the connection.

Configure SRX for IKEv2 EAP-TLS and PKI (Certificates)

CLI Quick Configuration

```
set security policies default-policy permit-all
set interfaces st0 unit 0 family inet address 172.16.10.200/24
set security zones security-zone internet interfaces st0.0 host-inbound-traffic system-services all
set security zones security-zone internet interfaces st0.0 host-inbound-traffic protocols all
set security pki ca-profile NCP_CA ca-identity ncp.juniper.net
set security pki ca-profile NCP_CA revocation-check disable
set security ike proposal IKE_PROP authentication-method rsa-signatures
set security ike proposal IKE_PROP dh-group group19
set security ike proposal IKE_PROP encryption-algorithm aes-256-gcm
set security ike proposal IKE_PROP lifetime-seconds 10000
set security ike policy IKE_POL proposals IKE_PROP
set security ike policy IKE_POL certificate local-certificate NCP_CA
set security ike gateway RAVPN_GW ike-policy IKE_POL
set security ike gateway RAVPN_GW dynamic hostname ncp.juniper.net
set security ike gateway RAVPN_GW dynamic user-at-hostname test@ncp.juniper.net
set security ike gateway RAVPN_GW dynamic connections-limit 100
set security ike gateway RAVPN_GW dynamic ike-user-type group-ike-id
set security ike gateway RAVPN_GW local-identity distinguished-name
```

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



```
set security ike gateway RAVPN_GW external-interface ge-0/0/0
set security ike gateway RAVPN_GW aaa access-profile radius
set security ike gateway RAVPN_GW version v2-only
set security ipsec proposal IPSEC_PROP protocol esp
set security ipsec proposal IPSEC_PROP encryption-algorithm aes-256-gcm
set security ipsec proposal IPSEC_PROP lifetime-seconds 3600
set security ipsec policy IPSEC_POL perfect-forward-secrecy keys group19
set security ipsec policy IPSEC_POL proposals IPSEC_PROP
set security ipsec vpn RAVPN_VPN bind-interface st0.0
set security ipsec vpn RAVPN_VPN ike gateway RAVPN_GW
set security ipsec vpn RAVPN_VPN ike ipsec-policy IPSEC_POL
set security ipsec vpn RAVPN_VPN traffic-selector TS1 local-ip 0.0.0.0/0
set security ipsec vpn RAVPN_VPN traffic-selector TS1 remote-ip 0.0.0.0/0
set access profile radius authentication-order radius
set access profile radius radius-server 10.20.44.235 port 1812
set access profile radius address-assignment pool NCP_POOL
set access profile radius radius-server 10.20.44.235 secret "12345678"
set access address-assignment pool NCP_POOL family inet network 172.16.10.0/24
set access address-assignment pool NCP_POOL family inet xauth-attributes primary-dns 172.16.10.10/32
set access address-assignment pool NCP_POOL family inet xauth-attributes primary-wins 172.16.10.20/32
set security ike gateway RAVPN_GW tcp-encap-profile NCP
set security tcp-encap profile NCP
commit
```

```
request security pki local-certificate load filename ncpvpngw1.pem key ncpvpngw1.key certificate-id NCP_CA
request security pki ca-certificate load ca-profile NCP_CA filename ncpdemoca1a.crt
```

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Step-by-step Procedure

1) Define tunnel interface and policies

```
set security policies default-policy permit-all
set interfaces st0 unit 0 family inet address 172.16.10.200/24
set security zones security-zone internet interfaces st0.0 host-inbound-traffic system-services all
set security zones security-zone internet interfaces st0.0 host-inbound-traffic protocols all
```

2) Create CA profile

```
set security pki ca-profile NCP_CA ca-identity ncp.juniper.net
set security pki ca-profile NCP_CA revocation-check disable
```

3) Create IKE proposals (policies)

```
set security ike proposal IKE_PROP authentication-method rsa-signatures
set security ike proposal IKE_PROP dh-group group19
set security ike proposal IKE_PROP encryption-algorithm aes-256-gcm
set security ike proposal IKE_PROP lifetime-seconds 10000
set security ike policy IKE_POL proposals IKE_PROP
set security ike policy IKE_POL certificate local-certificate NCP_CA
```

4) Create IKE gateway

```
set security ike gateway RAVPN_GW ike-policy IKE_POL
set security ike gateway RAVPN_GW dynamic hostname ncp.juniper.net
set security ike gateway RAVPN_GW dynamic user-at-hostname test@ncp.juniper.net
set security ike gateway RAVPN_GW dynamic connections-limit 100
set security ike gateway RAVPN_GW dynamic ike-user-type group-ike-id
set security ike gateway RAVPN_GW local-identity distinguished-name
set security ike gateway RAVPN_GW external-interface ge-0/0/0
set security ike gateway RAVPN_GW aaa access-profile radius
set security ike gateway RAVPN_GW version v2-only
```

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



5) Create IPsec proposal (policy)

```
set security ipsec proposal IPSEC_PROP protocol esp
set security ipsec proposal IPSEC_PROP encryption-algorithm aes-256-gcm
set security ipsec proposal IPSEC_PROP lifetime-seconds 3600
set security ipsec policy IPSEC_POL perfect-forward-secrecy keys group19
set security ipsec policy IPSEC_POL proposals IPSEC_PROP
```

6) Define VPN interface and routing information

```
set security ipsec vpn RAVPN_VPN bind-interface st0.0
set security ipsec vpn RAVPN_VPN ike gateway RAVPN_GW
set security ipsec vpn RAVPN_VPN ike ipsec-policy IPSEC_POL
set security ipsec vpn RAVPN_VPN traffic-selector TS1 local-ip 0.0.0.0/0
set security ipsec vpn RAVPN_VPN traffic-selector TS1 remote-ip 0.0.0.0/0
```

7) Create access profile for RADIUS server

```
set access profile radius authentication-order radius
set access profile radius radius-server 10.20.46.234 port 1812
set access profile radius address-assignment pool NCP_POOL
set access profile radius radius-server 10.20.46.234 secret "12345678"
```

8) Create IP address pool for Remote Access Users

```
set access address-assignment pool NCP_POOL family inet network 172.16.10.0/24
set access address-assignment pool NCP_POOL family inet xauth-attributes primary-dns 172.16.10.10/32
set access address-assignment pool NCP_POOL family inet xauth-attributes primary-wins 172.16.10.20/32
```

9) Enable NCP Path Finder Technology (TCP encapsulation)

```
set security ike gateway RAVPN_GW tcp-encap-profile NCP
set security tcp-encap profile NCP
commit
```

10) Commit changes

```
commit
```

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



11) Import/load certificates

Use SCP to copy certificates to the SRX in /cf/root/

```
request security pki local-certificate load filename ncpvpngw1.pem key ncpvpngw1.key certificate-id NCP_CA
```

```
request security pki ca-certificate load ca-profile NCP_CA filename ncpdemoca1a.crt
```

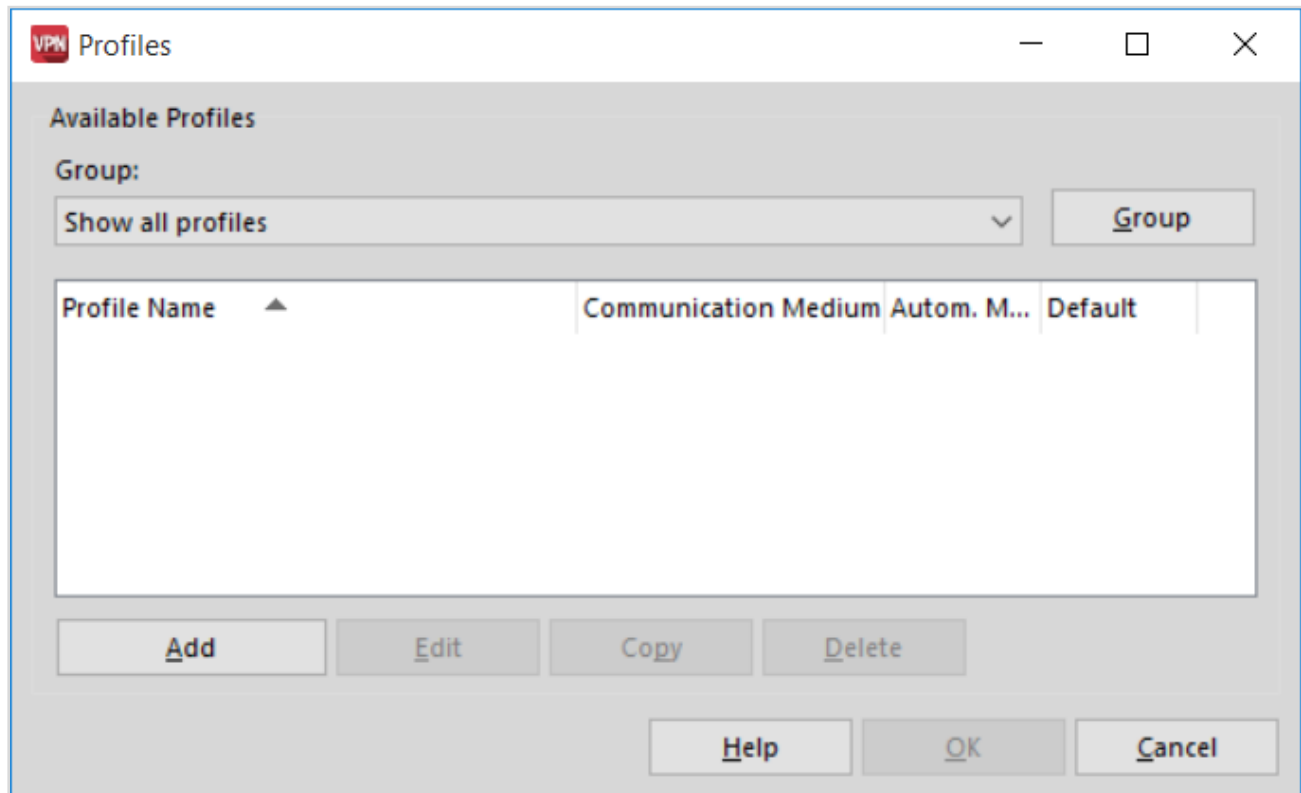
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configure NCP Exclusive Remote Access Client

Create new Connection Profile (Configuration – Profiles)



Click on “Add” to create a new Connection Profile

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NCP Remote Access VPN Client for Juniper SRX



New Profile Wizard ✕

Basic Settings
Define the Connection Type NCP

Link to Corporate Network Using IPsec
Create a link to the corporate network over a virtual private network (VPN) secured by IPsec.

< Back Next Cancel

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NCP Remote Access VPN Client for Juniper SRX



New Profile Wizard ✕

Profile Name
Enter the name of the profile **NCP**

The connection may be given a descriptive name; enter a name in the following field.

Profile name:

< Back Next Cancel

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NCP Remote Access VPN Client for Juniper SRX



New Profile Wizard

Communication Medium
Select the Media Type

Determine how the connection to the corporate network should be established. If the internet should be used via modem, set the connection type to "modem" and then select the appropriate modem.

Communication Medium:


< Back Next Cancel

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



New Profile Wizard ✕

VPN Gateway Parameters
To which VPN server should the connection be established? 

Enter the DNS name (e.g. vpnserver.domain.com) or the official IP address (e.g. 212.10.17.29) of the VPN gateway you want to connect to.

Gateway / Tunnel Endpoint
(VPN Gateway's Hostname or IP Address)

< Back Next > Cancel

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NCP Remote Access VPN Client for Juniper SRX



New Profile Wizard ✕

Certificate Usage
Should a certificate be used for authentication? **NCP**

For strong authentication a certificate can be used. This certificate will be checked by the VPN gateway at beginning of the connection. Secure Client Monitor's menu item Configuration: Certificates allows for the configuration of which certificate the client is going to use.

No Certificate for Authentication
 Certificate for Authentication

Certificate Configuration
Standard certificate configuration ▼

< Back Next Cancel

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



New Profile Wizard ✕

Connection Information for VPN Gateway
IKE ID Type and ID **NCP**

Enter the appropriate value for the IKE ID according to the selected ID type.

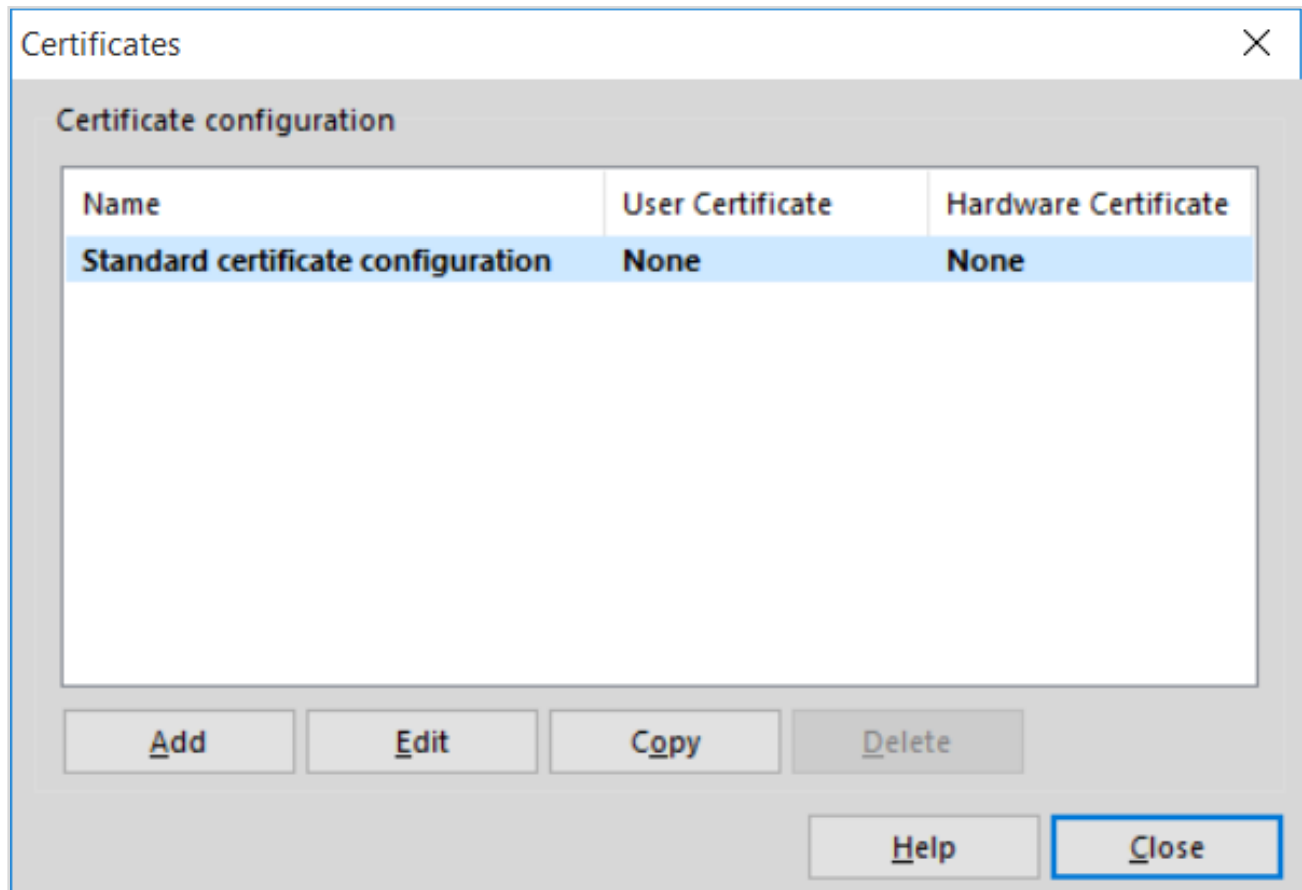
IKE ID Type:

IKE ID:

Choose user certificate (Configuration – Certificates)

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Edit "Standard certificate configuration" profile

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Certificates

Name: Standard certificate configuration

User Certificate | PIN Policy | Certificate Renewal | Computer Certificate

Certificate: from PKCS#12 file

Select Certificate: 1

PKCS#12 Filename: [...]

Enable Certificate Selection

Certificate Path: [...]

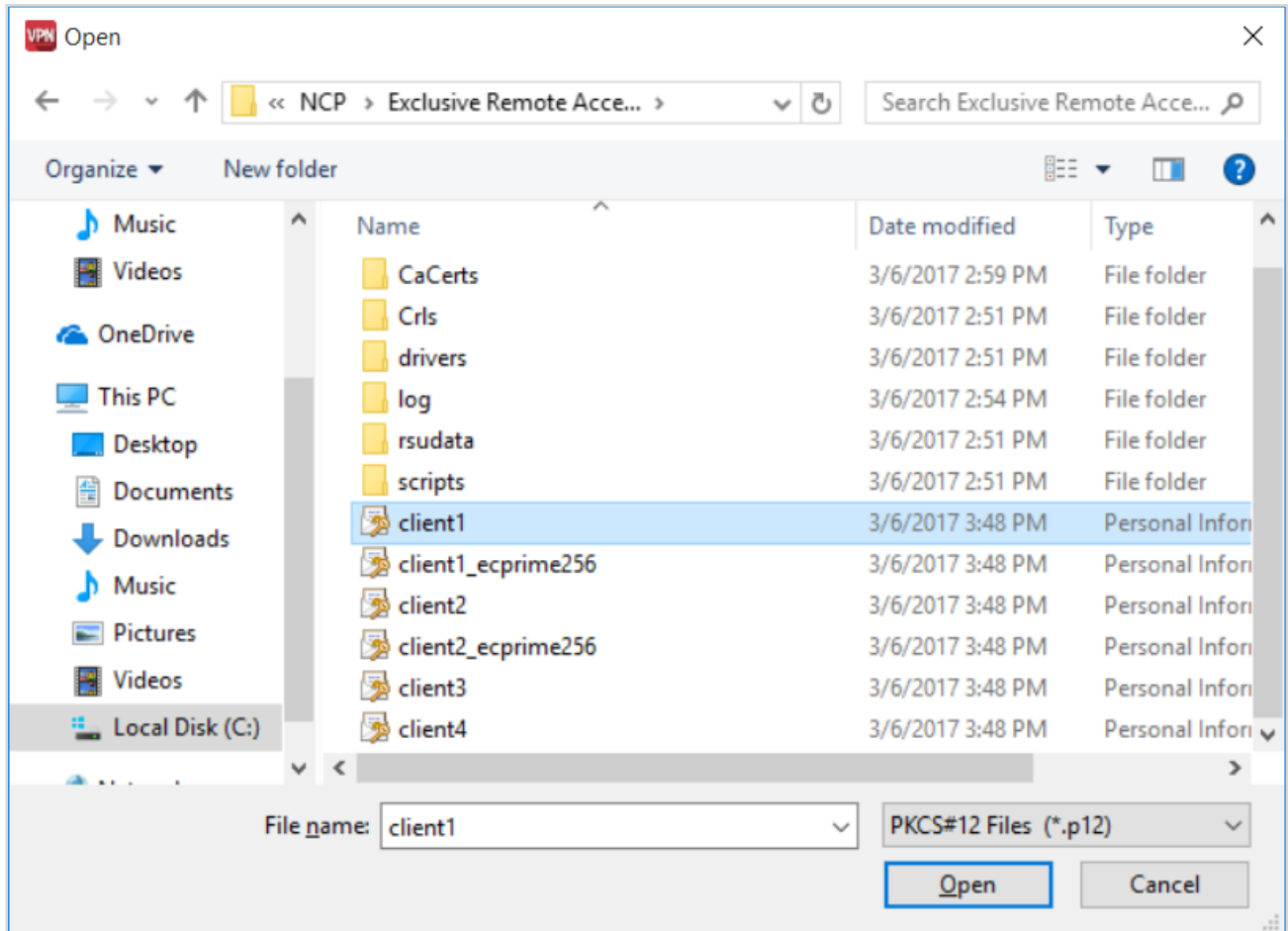
PIN request at each connection

Help OK Cancel

Click on “...” on PKCS#12 Filename

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Certificates ✕

Name: Standard certificate configuration

User Certificate | PIN Policy | Certificate Renewal | Computer Certificate

Certificate: from PKCS#12 file ▾

Select Certificate: 1

PKCS#12 Filename: C:\Program Files\NCP\Exclusive Remote Ac... [...]

Enable Certificate Selection

Certificate Path: [] [...]

PIN request at each connection

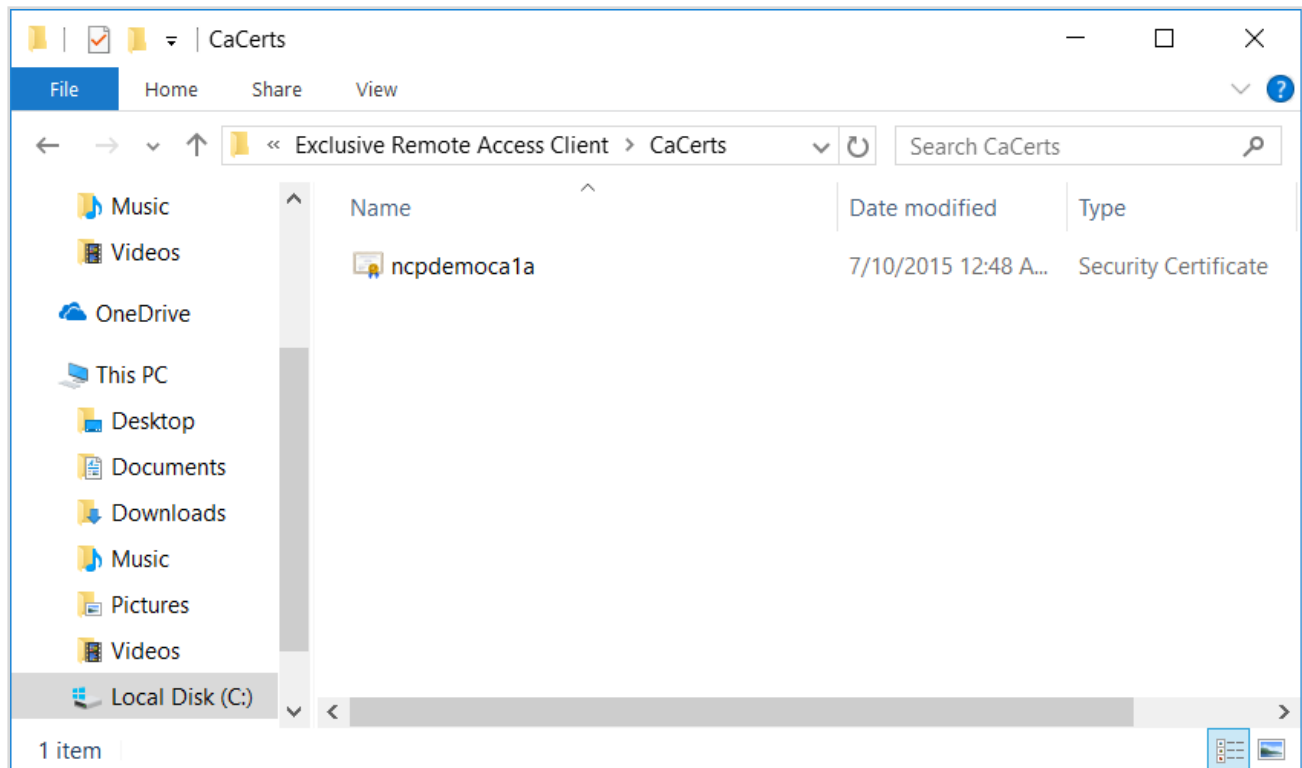
Help OK Cancel

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Copy the CA/issuer certificate into the folder CaCerts of the NCP program folder

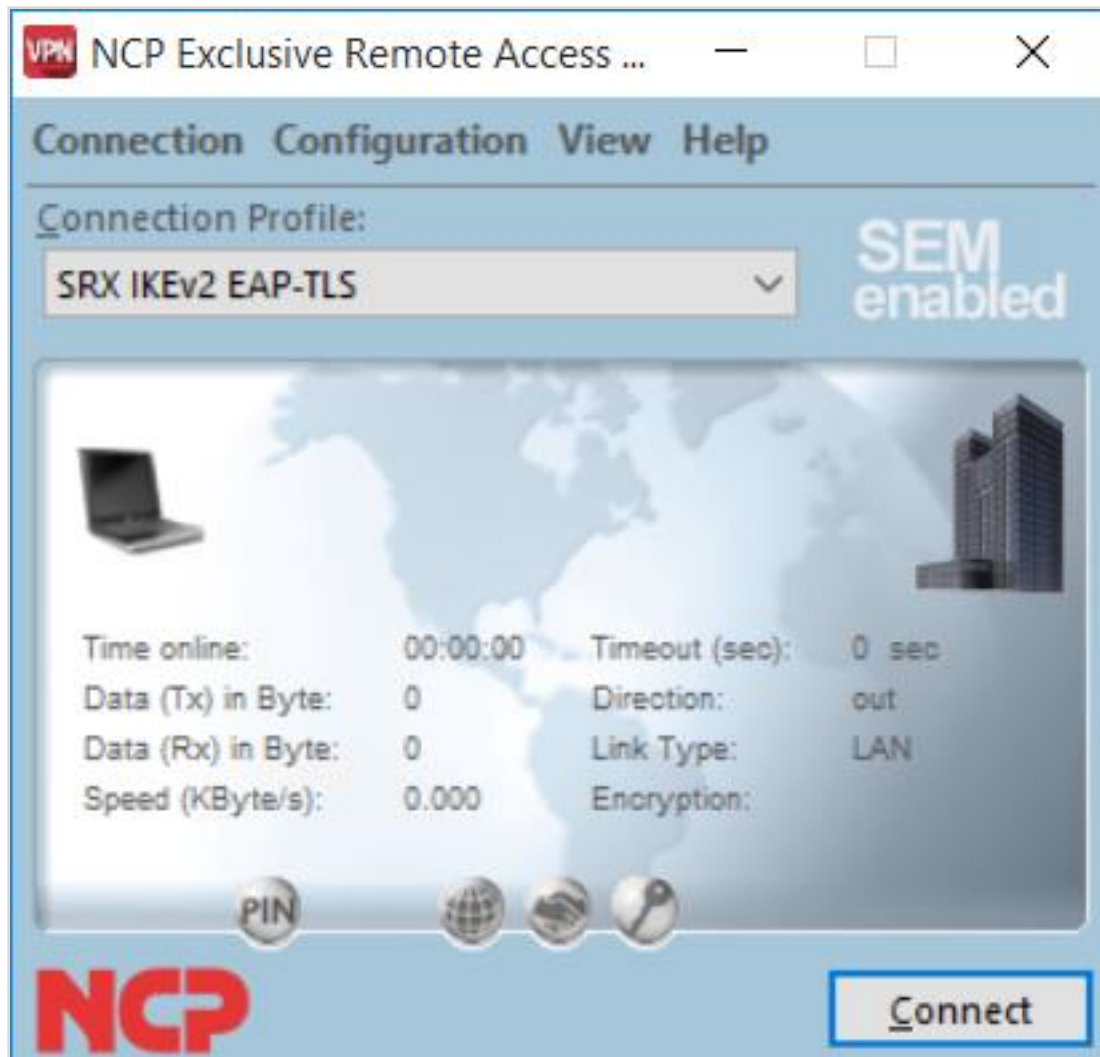


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

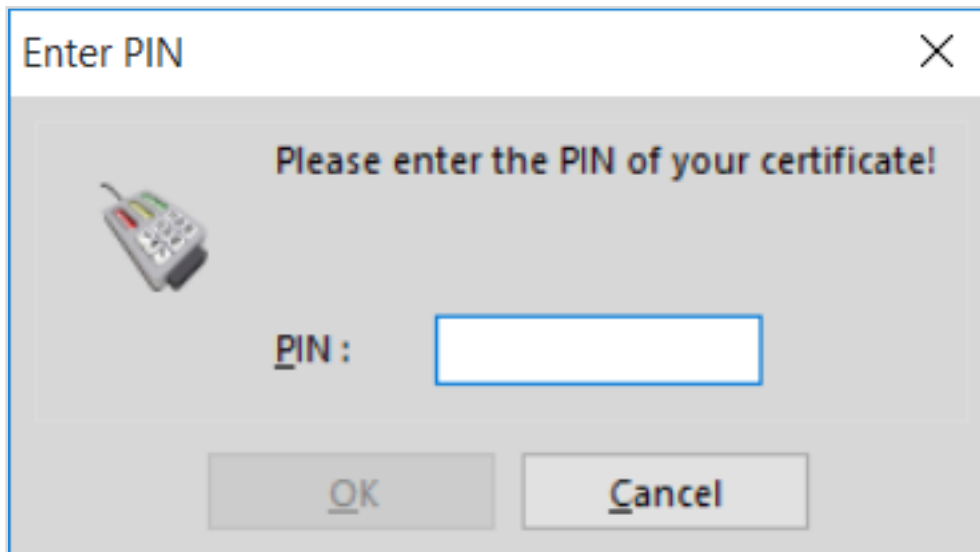


Establish the VPN connection by clicking on “Connect”

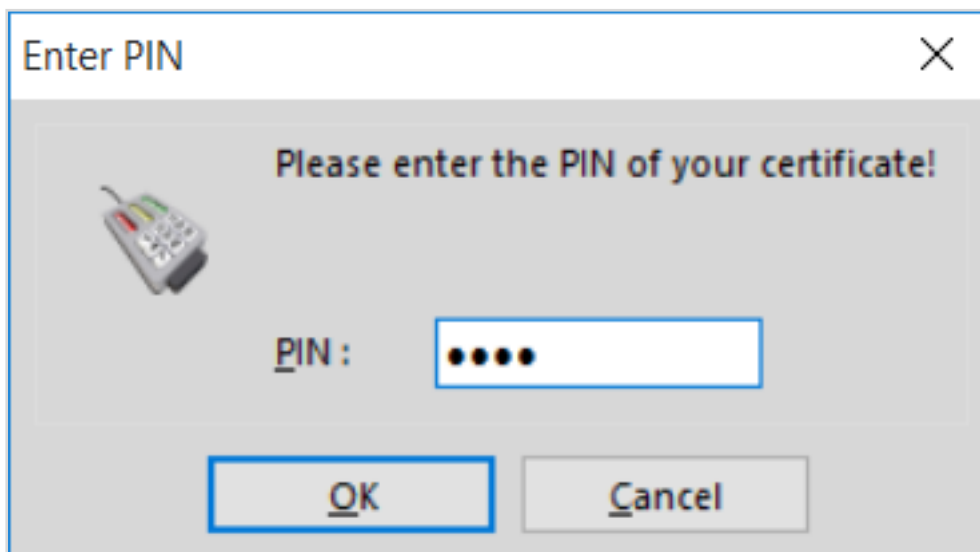


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



(If NCP test certificate is used PIN is : 1234)



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



The screenshot shows a window titled "NCP Exclusive Remote Access ...". The main area displays "Connection established." with a green bar connecting a laptop to a server building. Below this, connection statistics are shown:

Time online:	00:00:03	Timeout (sec):	0 sec
Data (Tx) in KByte:	2.471	Direction:	out
Data (Rx) in KByte:	2.471	Link Type:	LAN
Speed (KByte/s):	1.297	Encryption:	AES GCM 256

At the bottom, there is a "Disconnect" button and the NCP logo. A "SEM enabled" label is visible in the top right of the interface.

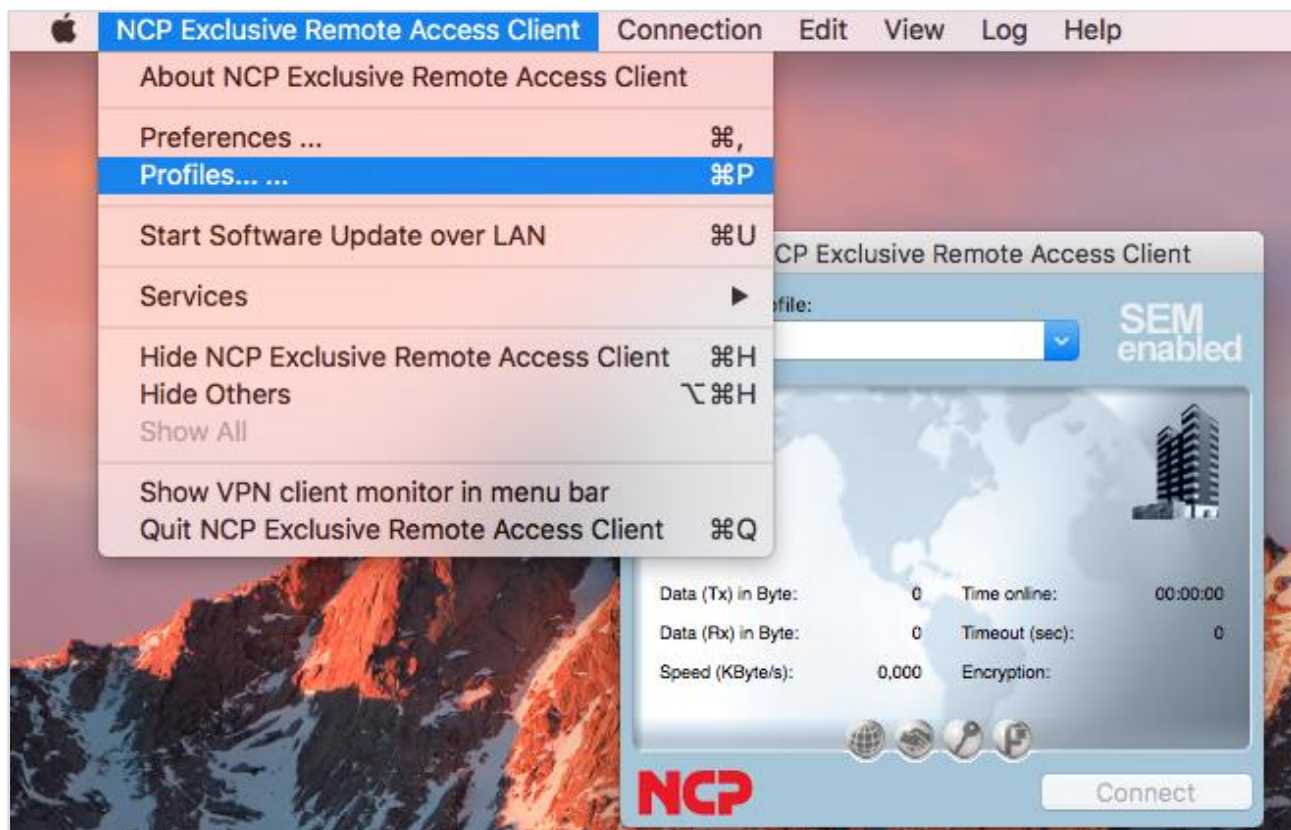
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



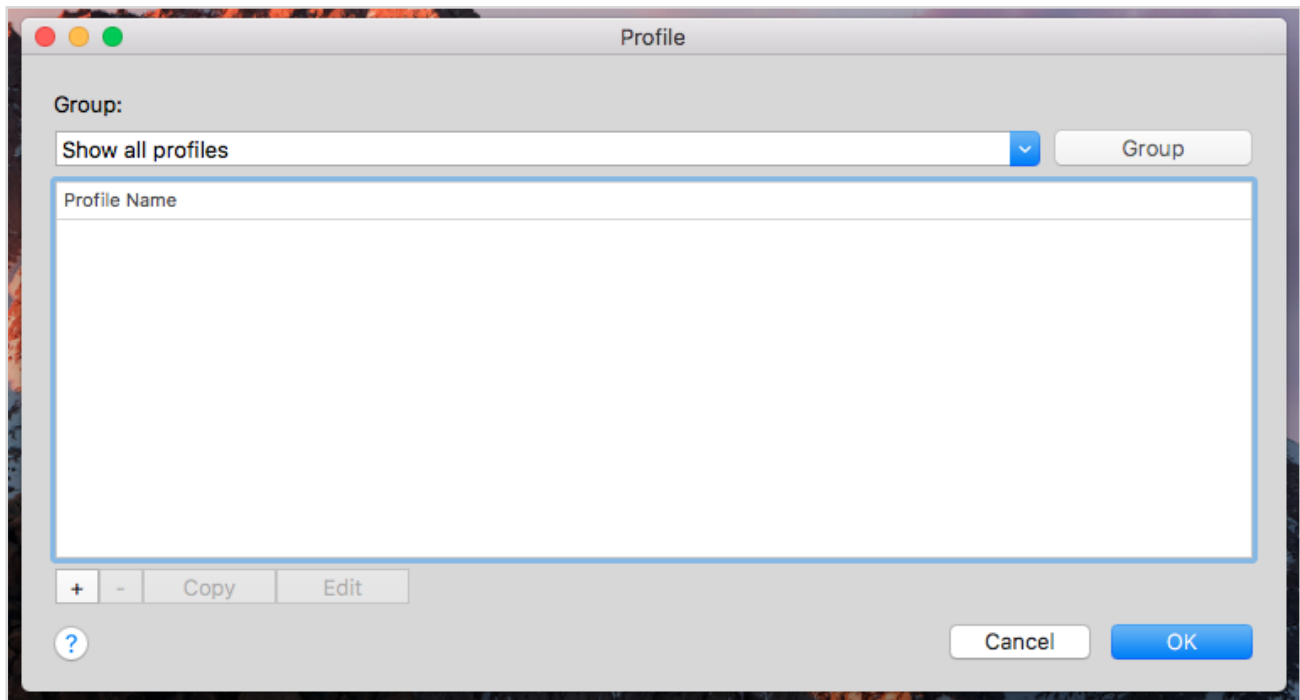
Configure NCP Exclusive Remote Access Client for macOS

Create new Connection Profile (NCP Exclusive Remote Access Client – Profiles...)



Configuration Guide

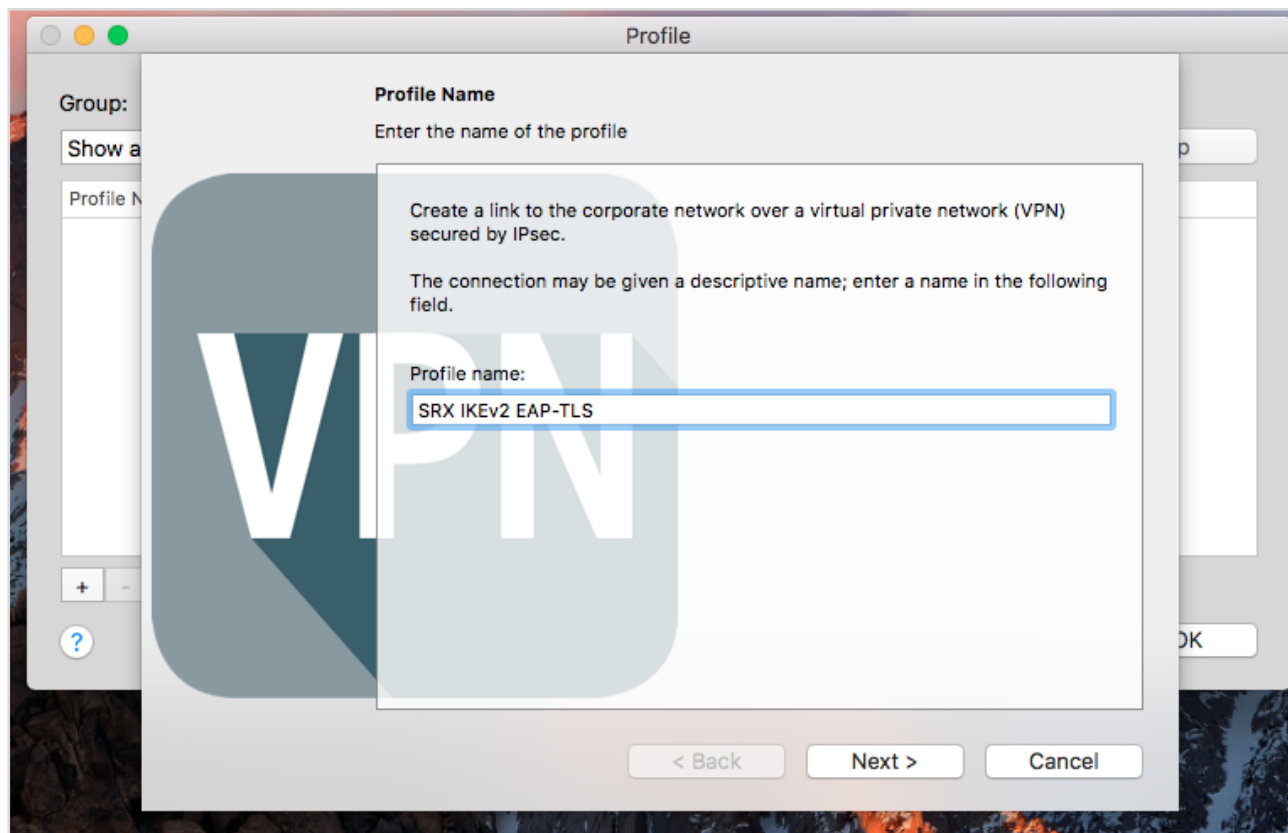
NCP Remote Access VPN Client for Juniper SRX



Click on “+” to create a new Connection Profile

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



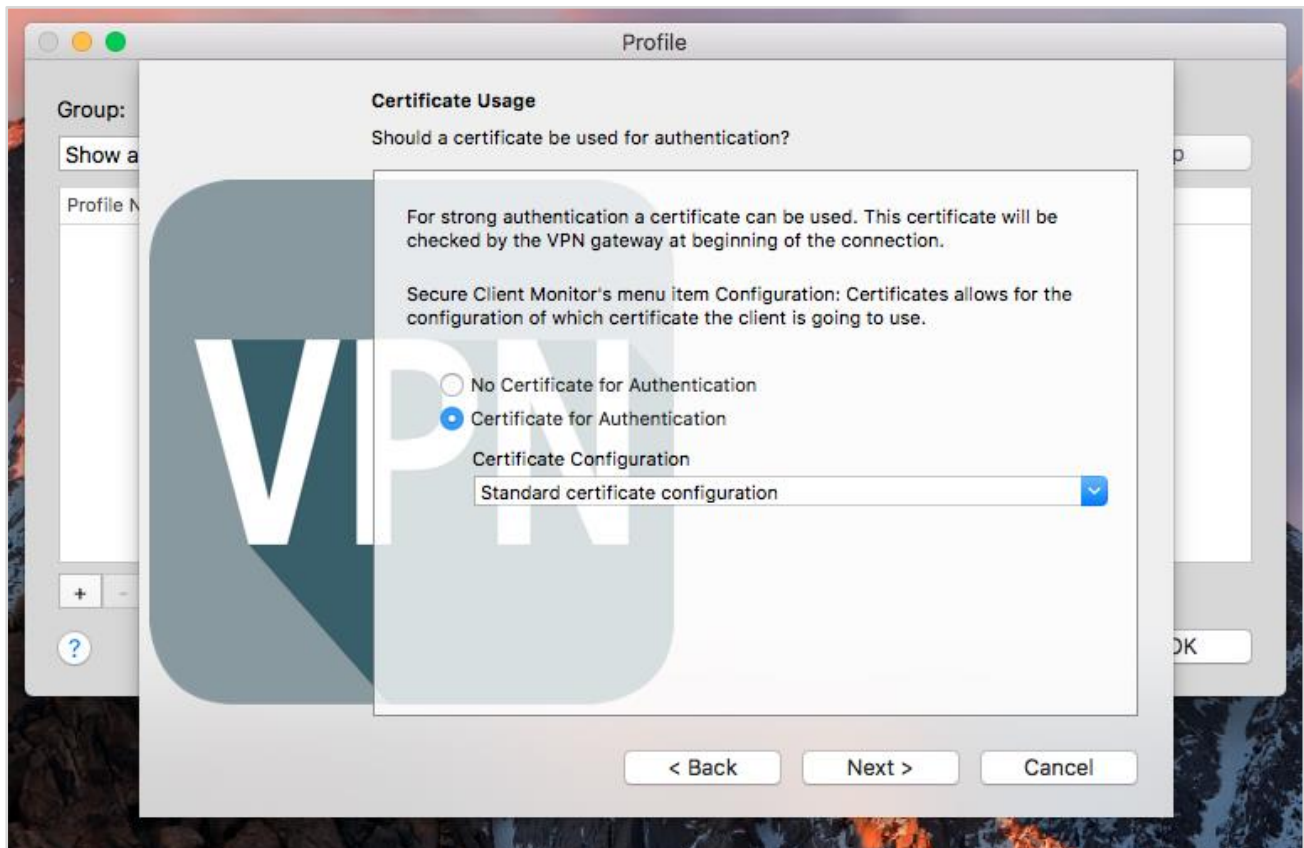
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



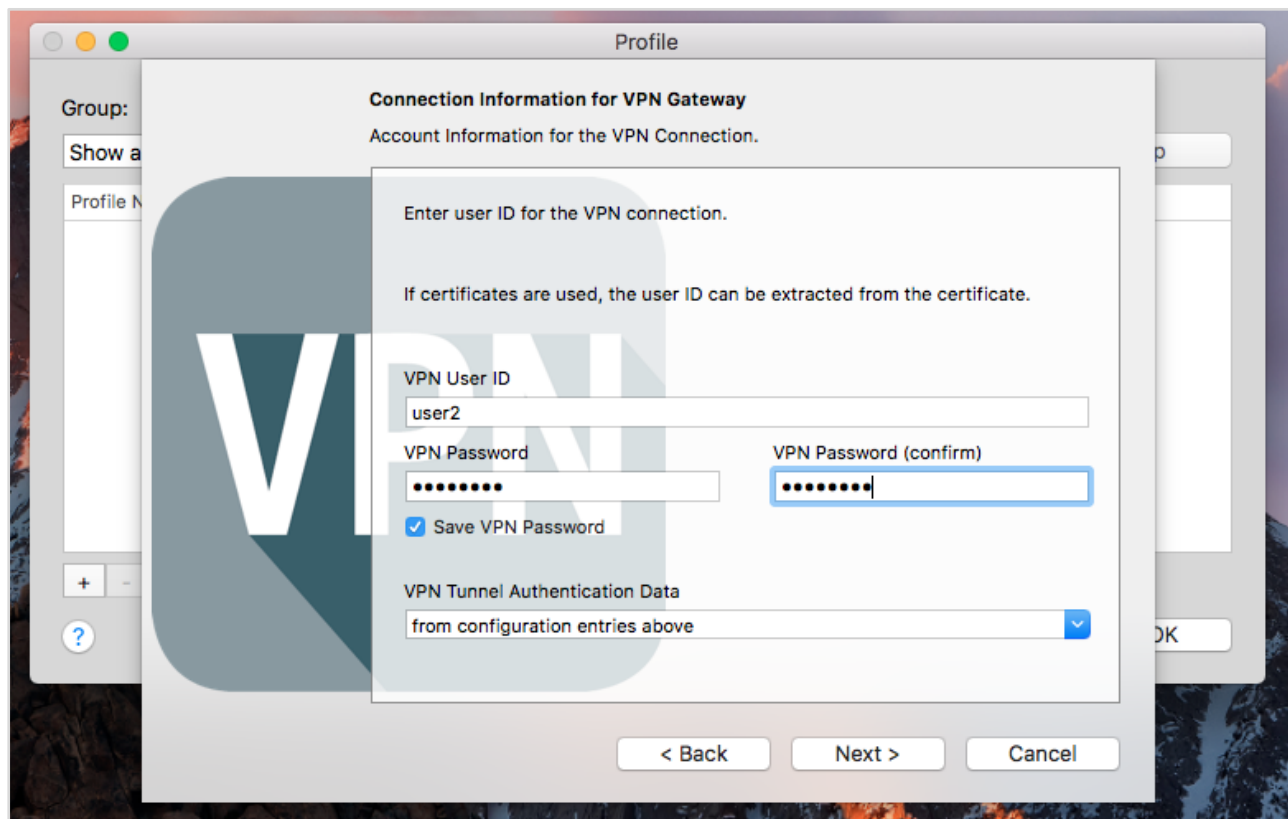
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



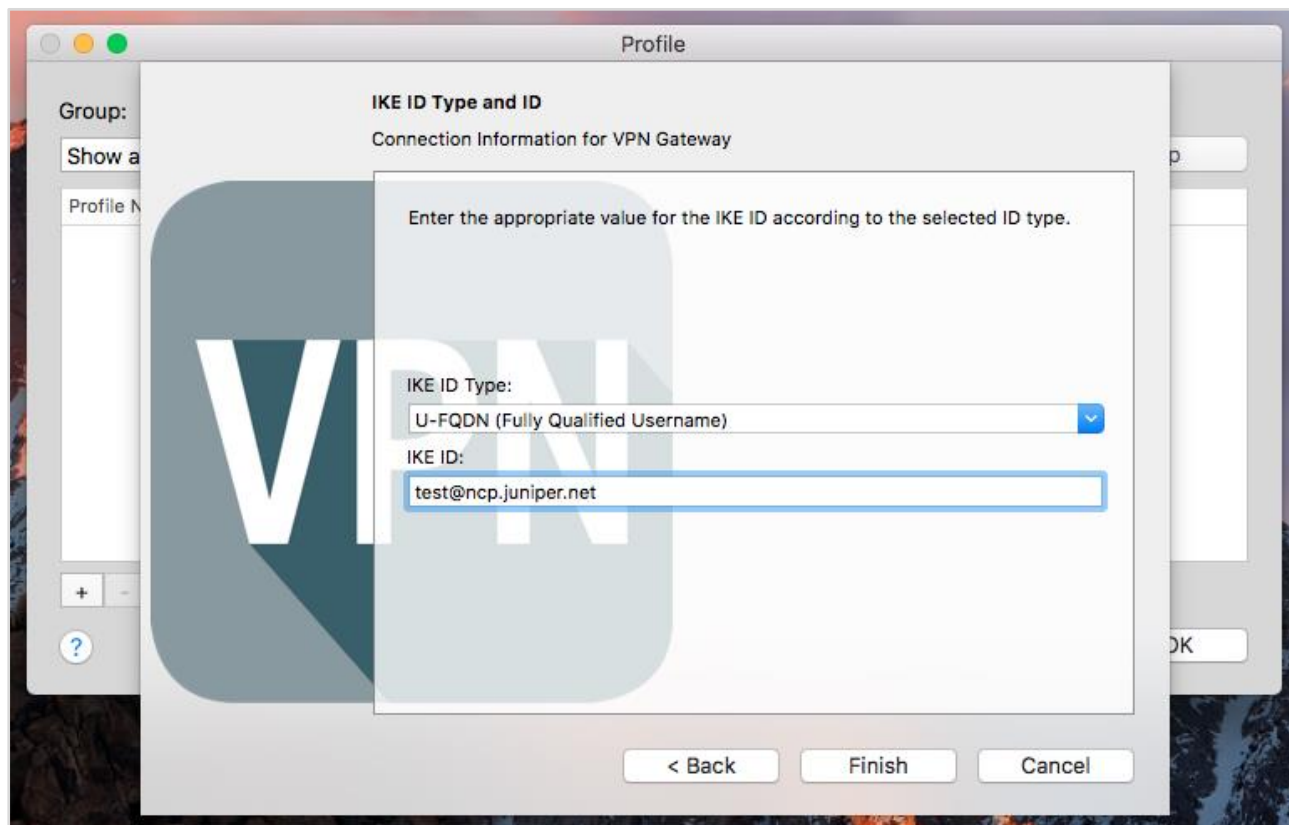
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

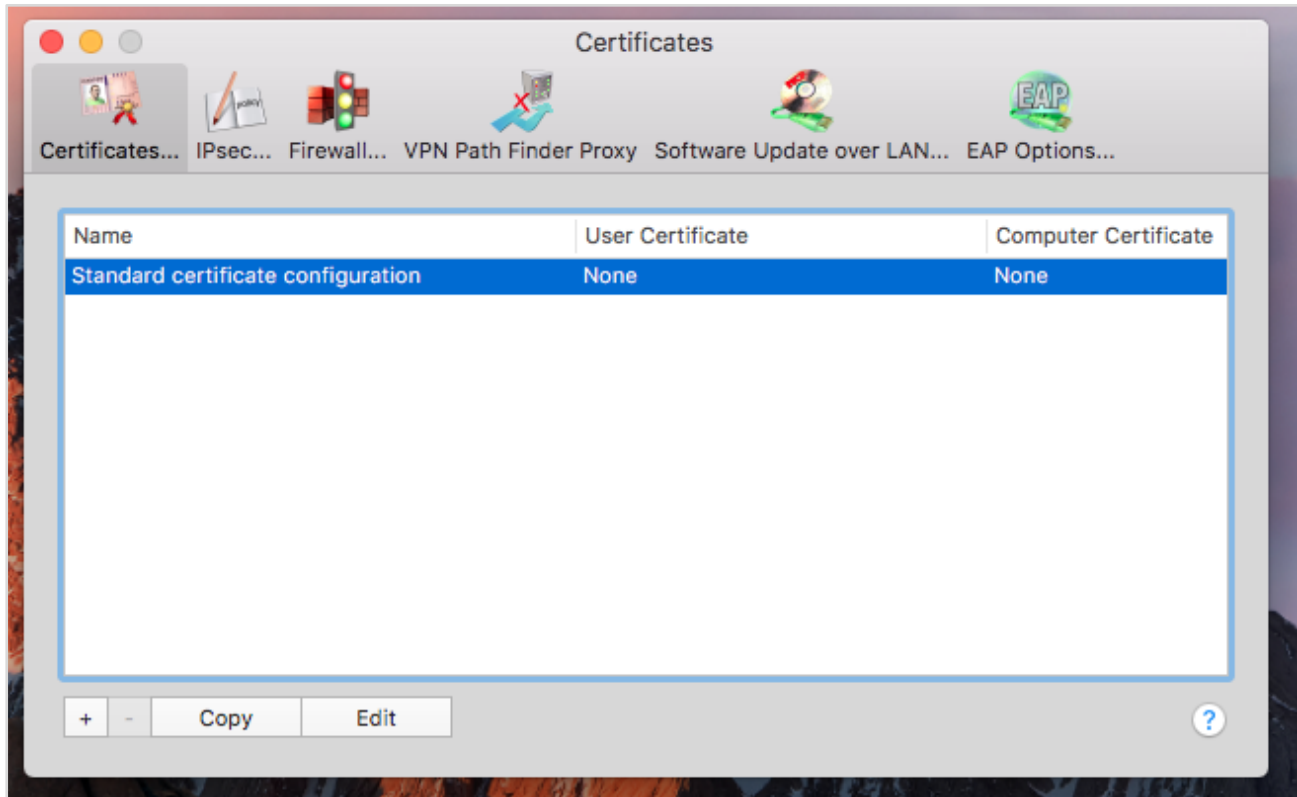


Choose user certificate (NCP Exclusive Remote Access Client – Preferences...)



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

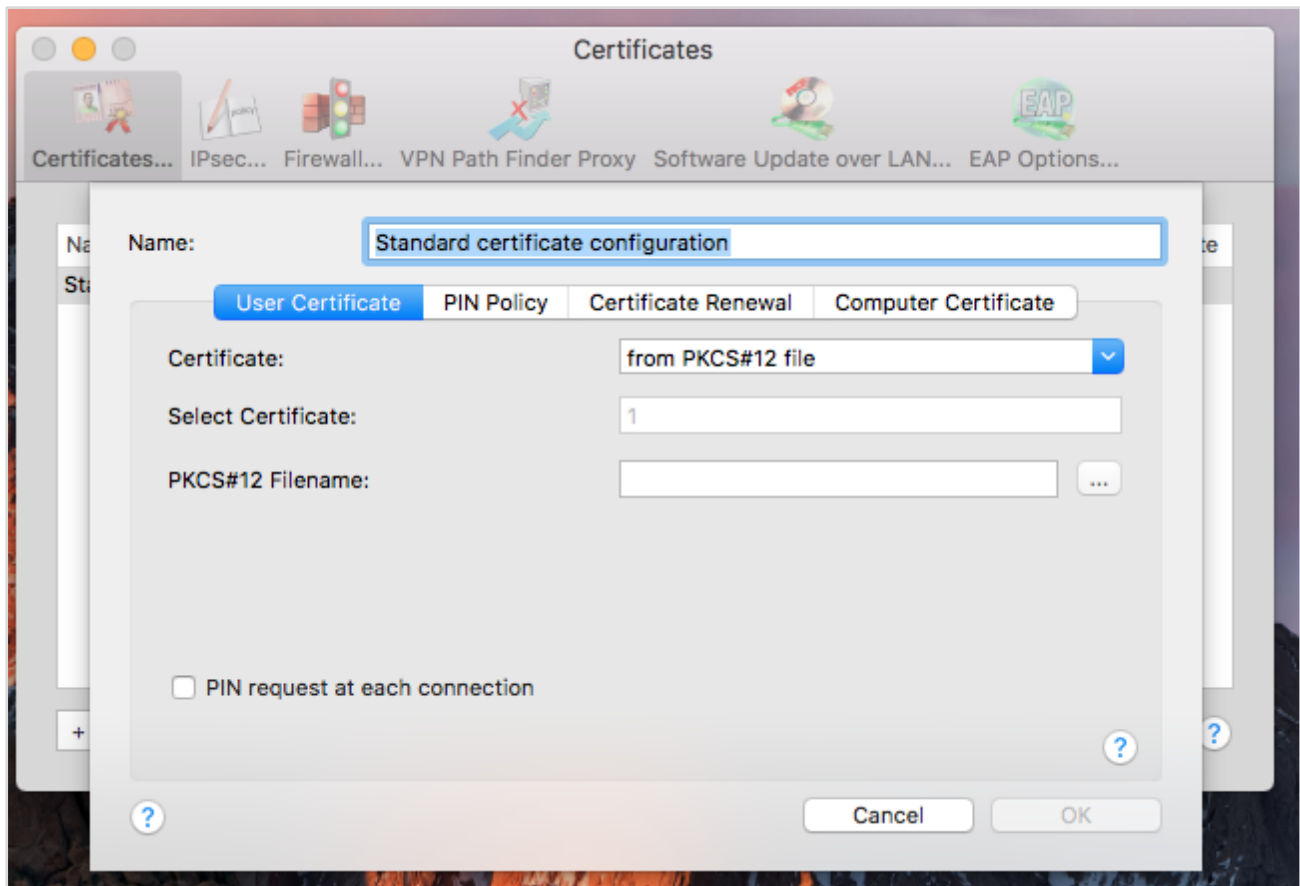


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



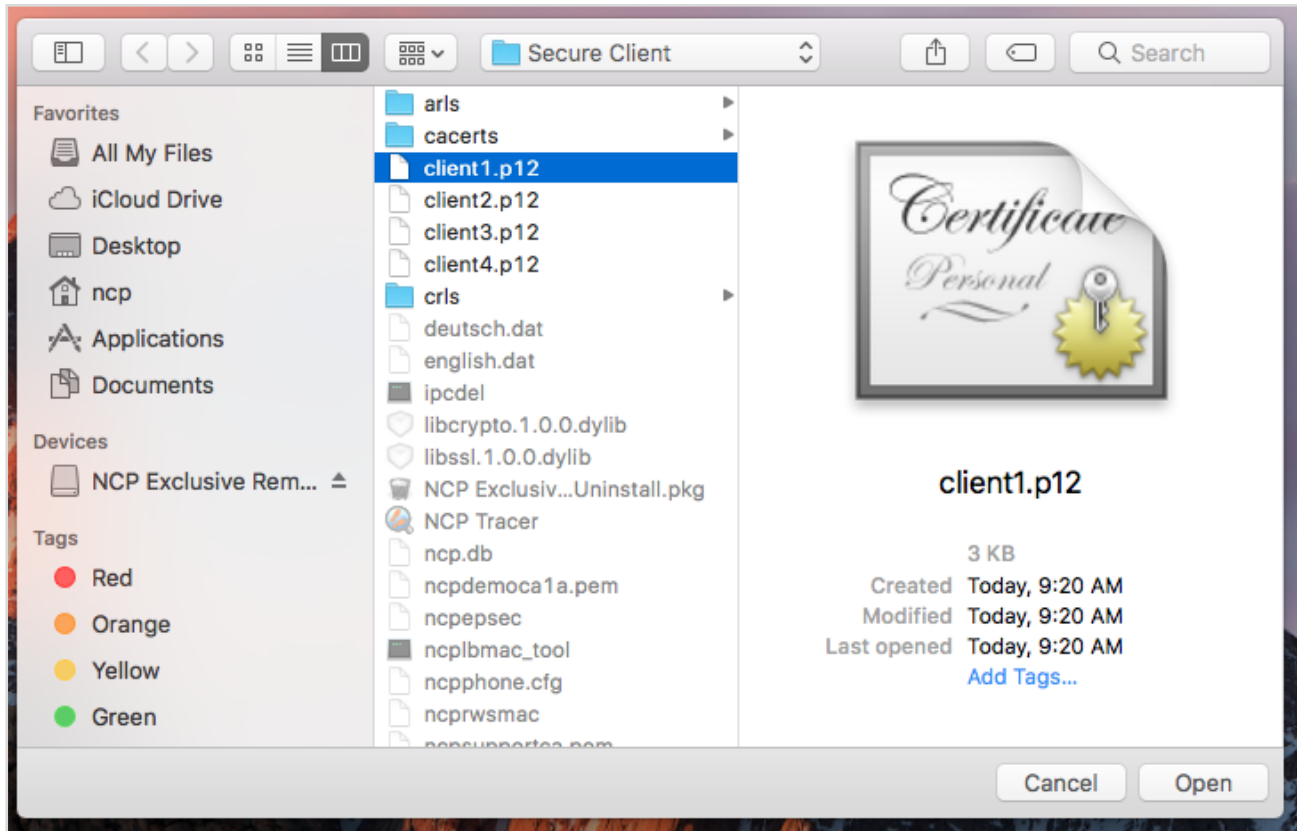
Edit “Standard certificate configuration” profile



Click on “...” on PKCS#12 Filename

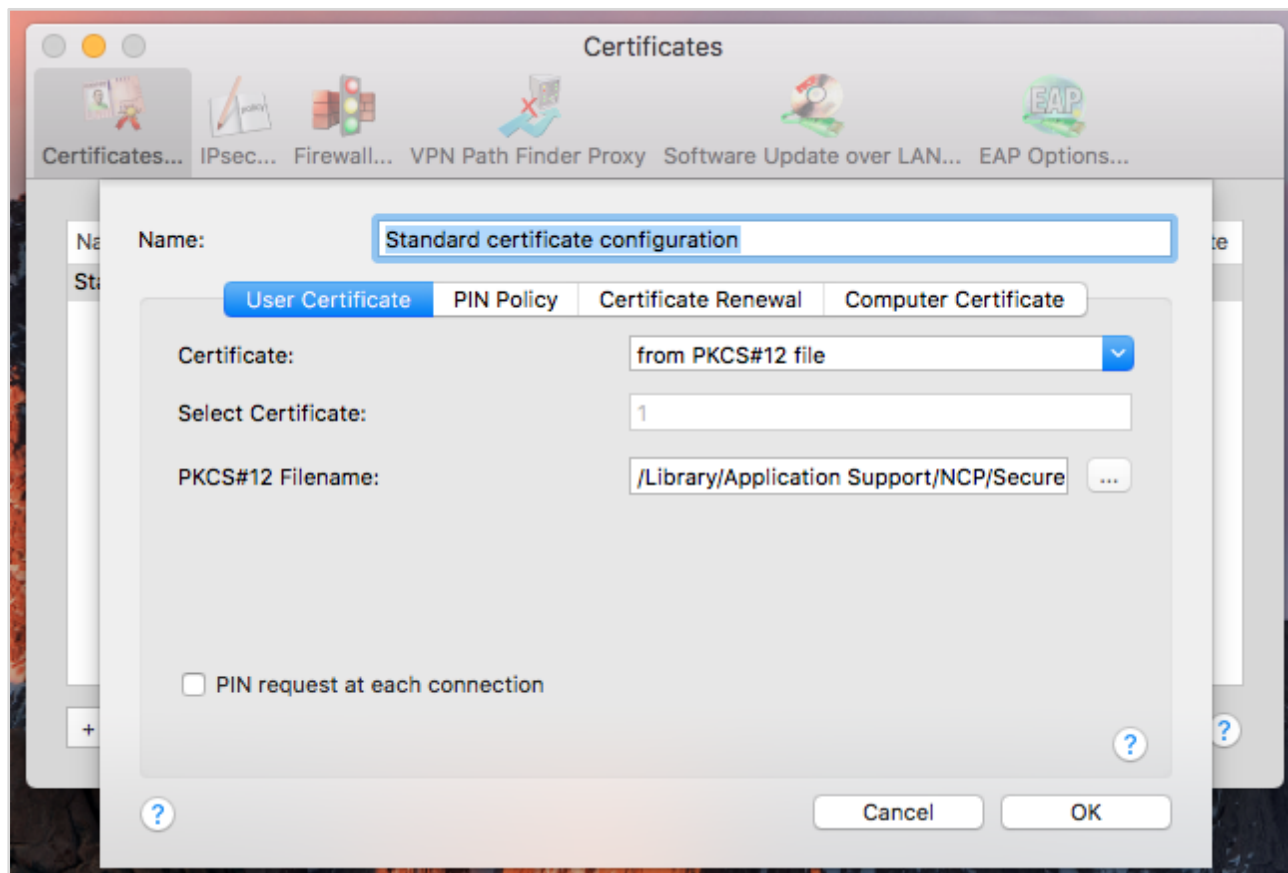
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

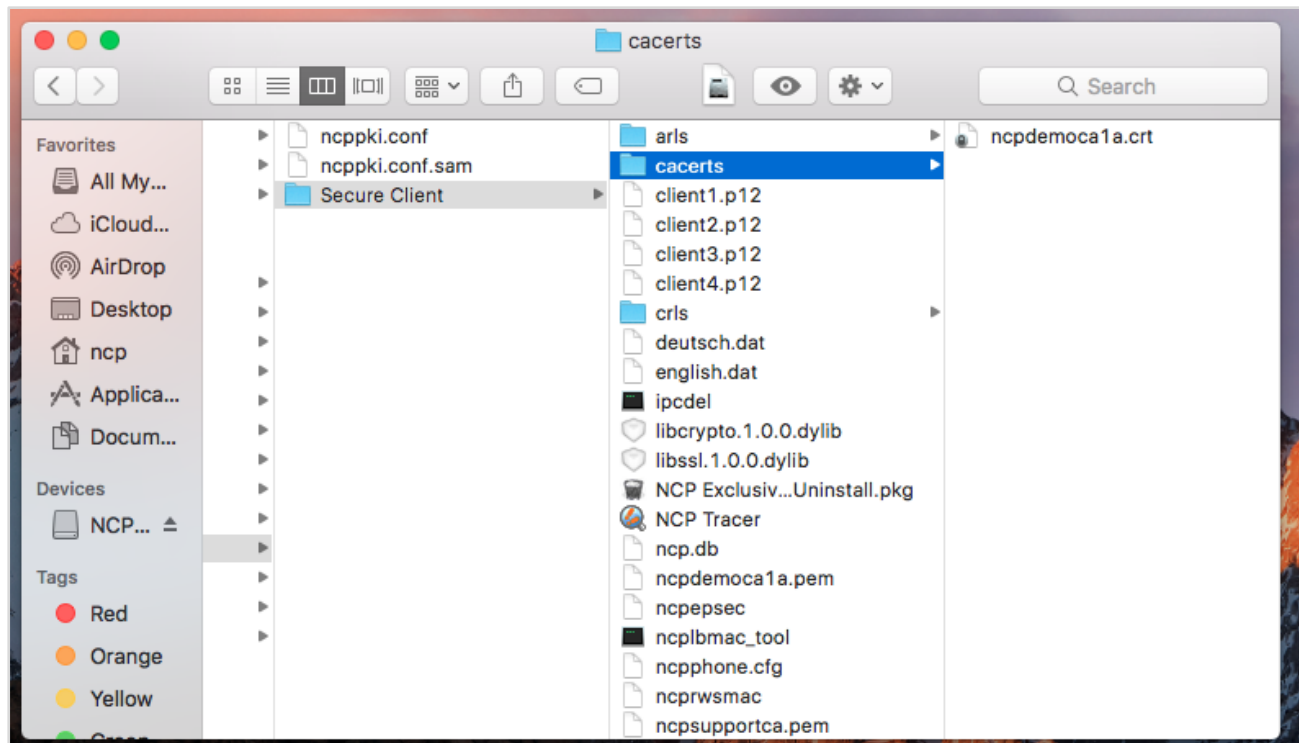


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Copy the CA/issuer certificate into the folder CaCerts of the NCP program folder



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

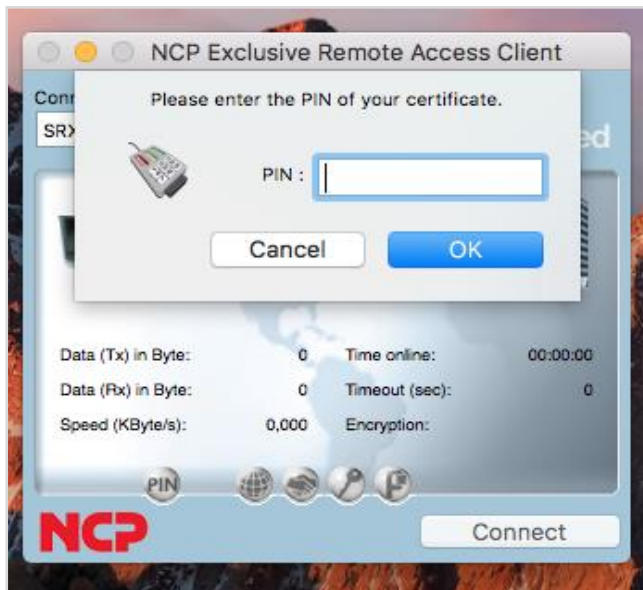


Establish the VPN connection by clicking on “Connect”

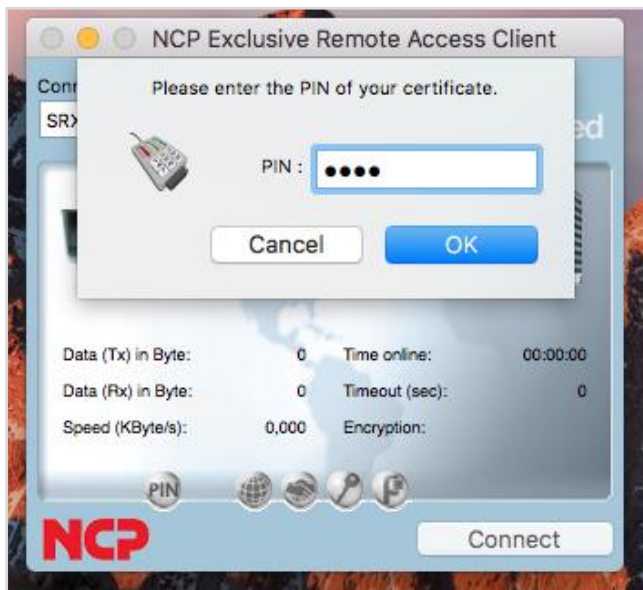


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

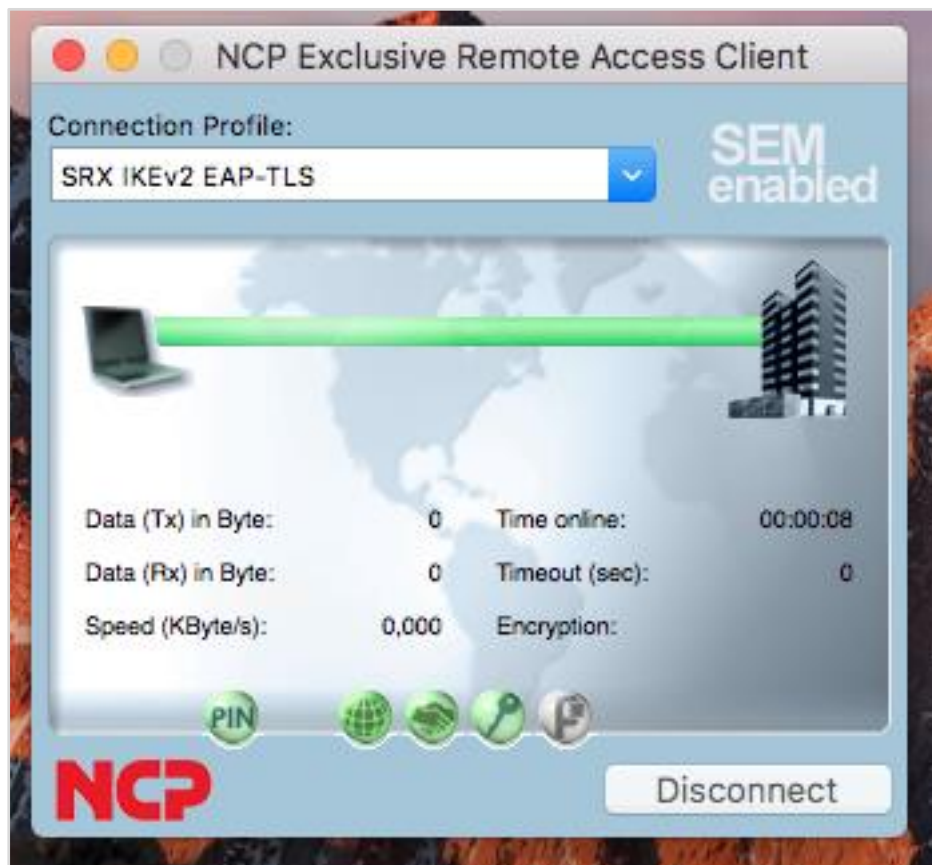


(If NCP test certificate is used PIN is : 1234)



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



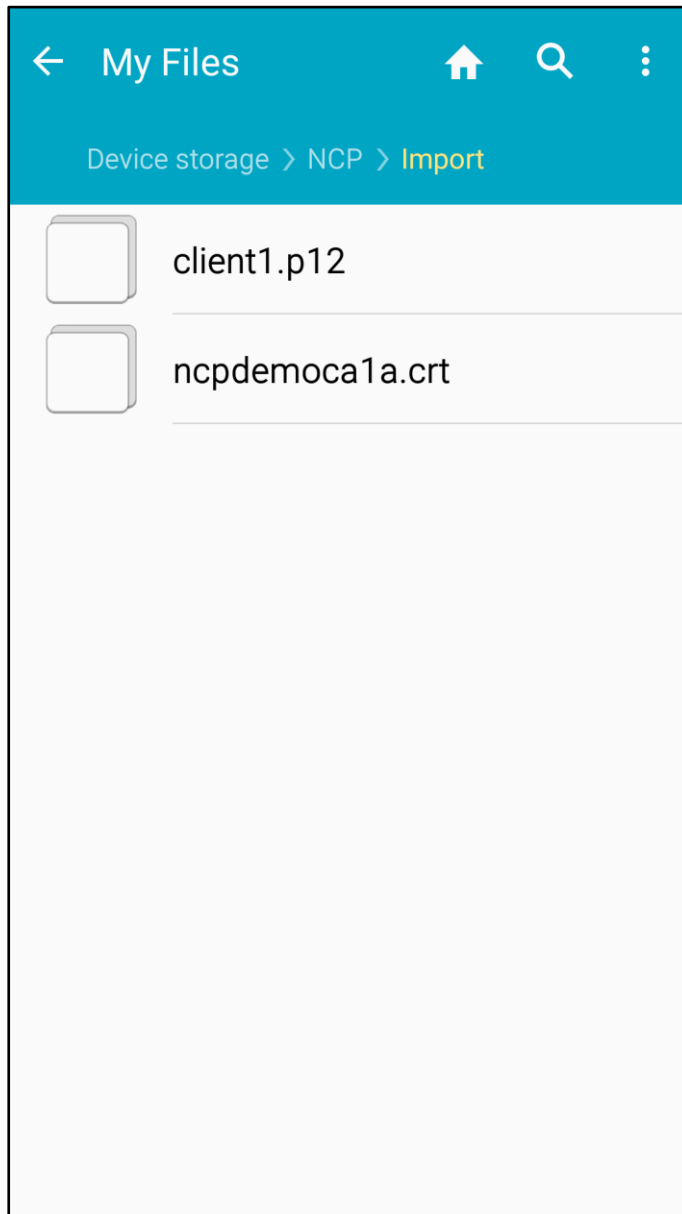
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configure NCP Exclusive Remote Access Client for Android

Copy the CA/issuer certificate and the user certificate into the folder Device Storage/NCP/Import

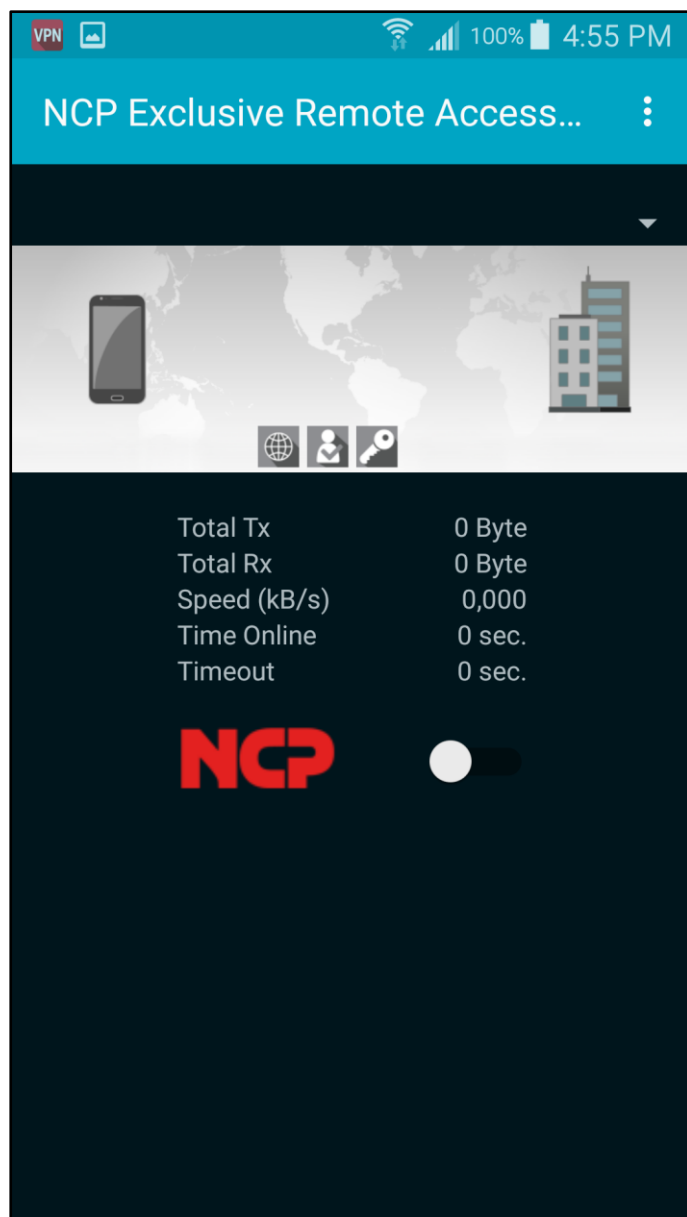


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

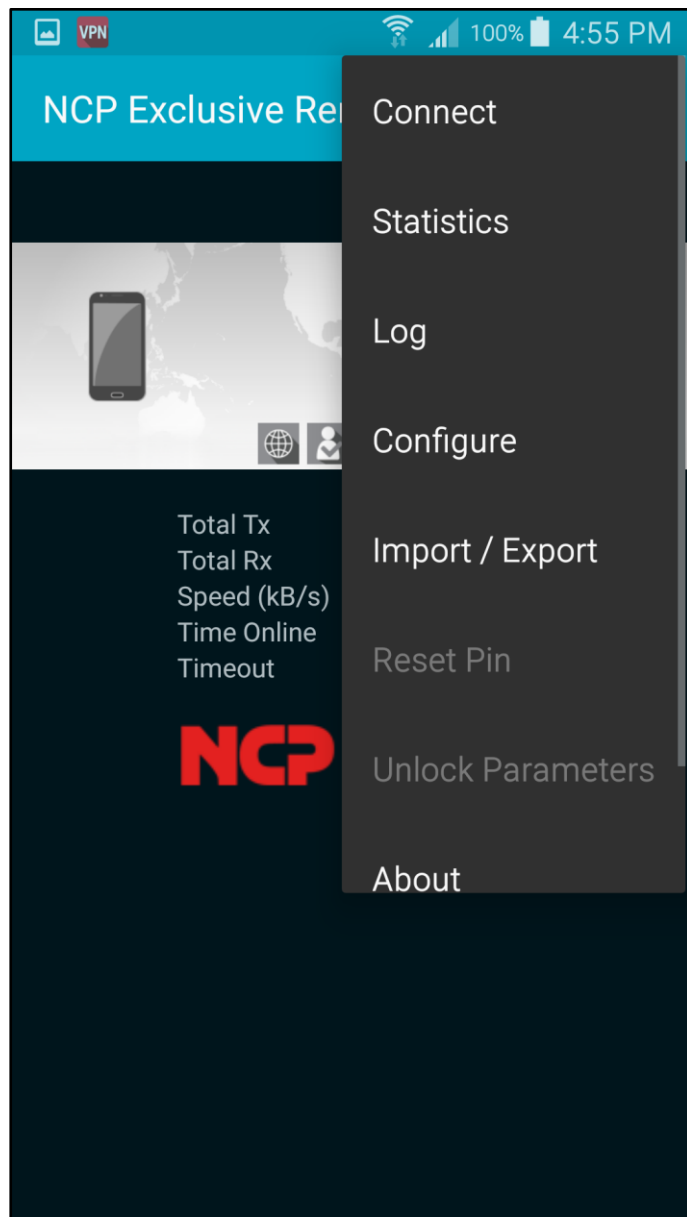


Open the client and go to “Import/Export” in the menu



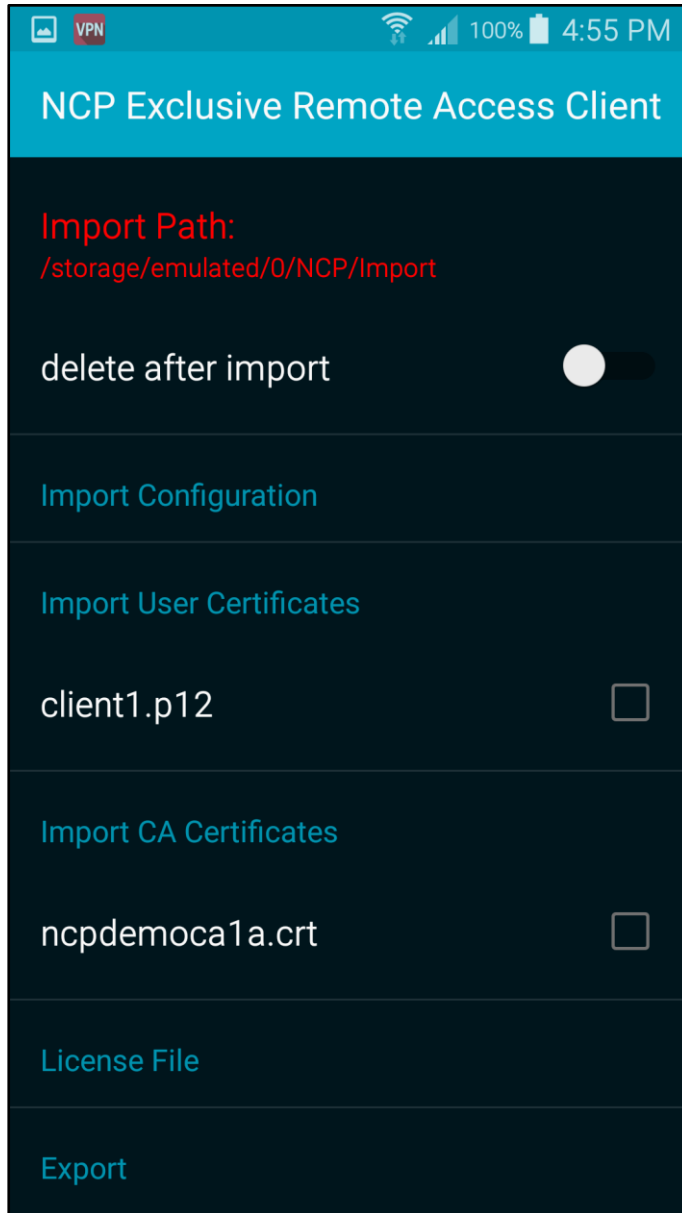
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

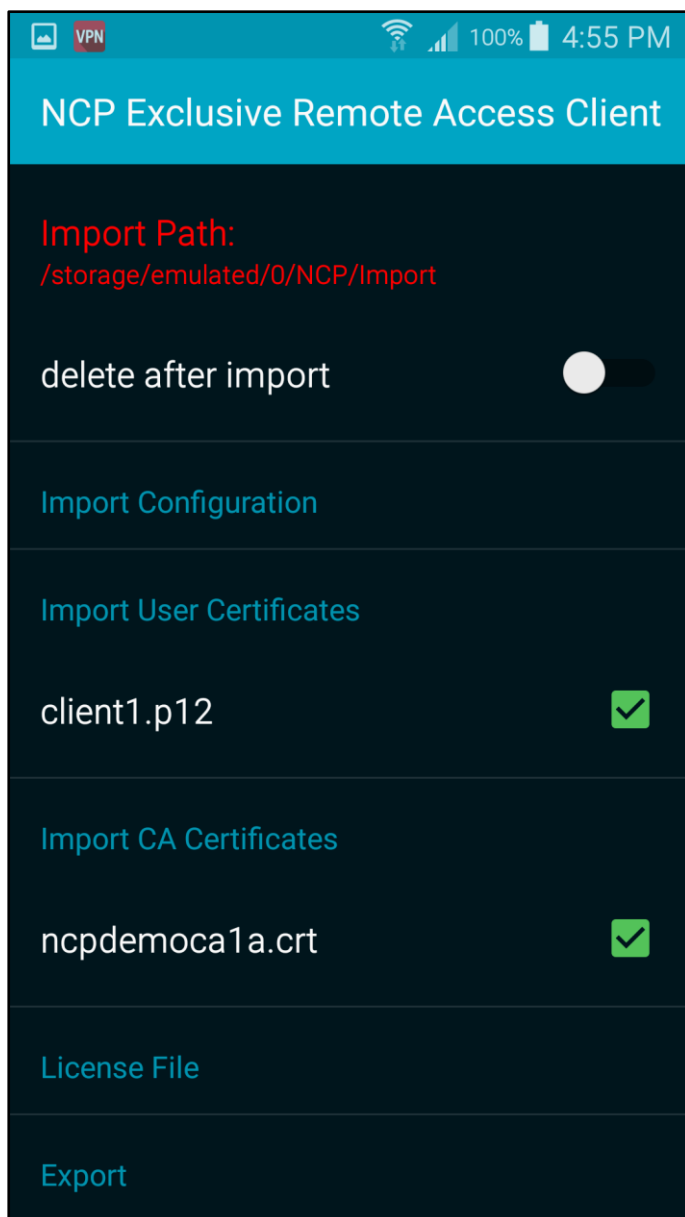


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enable the CA/issuer certificate and the user certificate and press the back/return button on the device



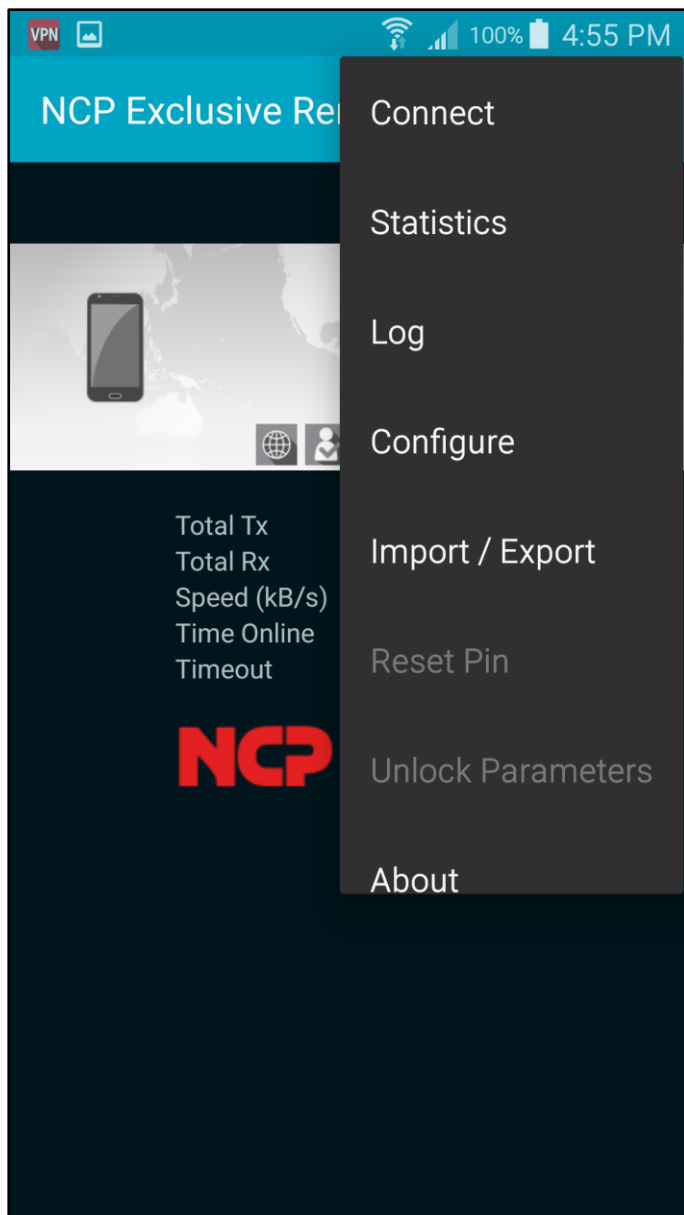
The CA/issuer certificate and the user certificate will be imported

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

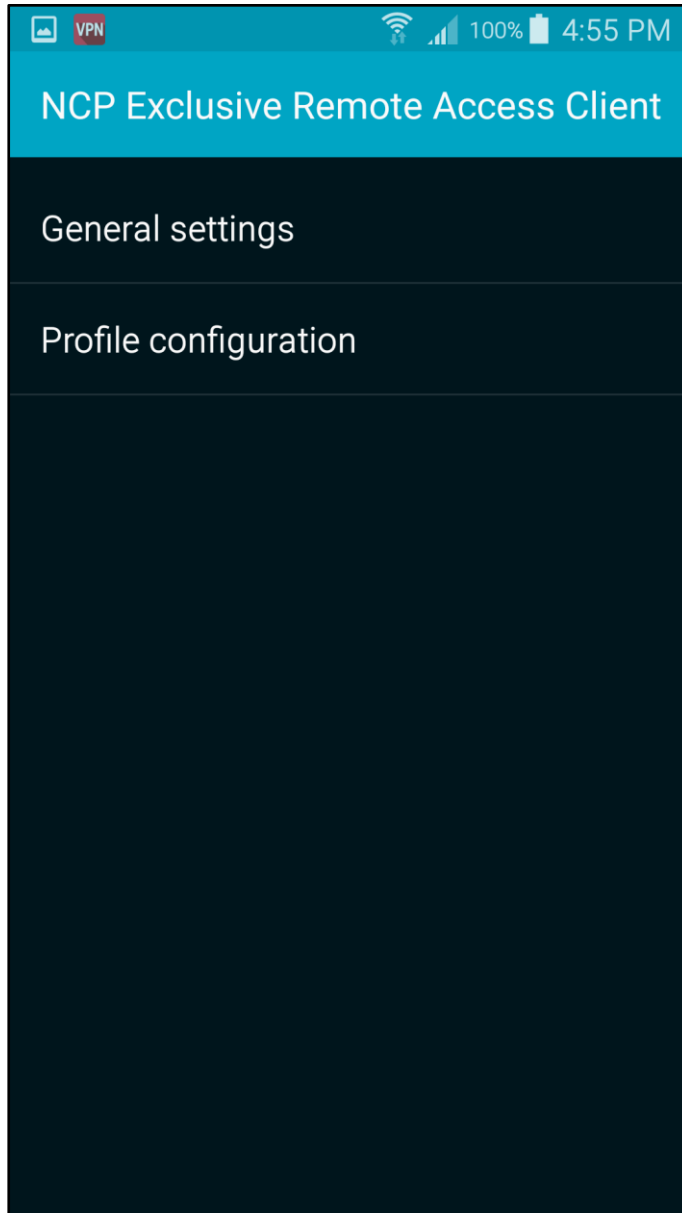


Create new Connection Profile (Menue – Configure – Profile configuration– Add Profile)



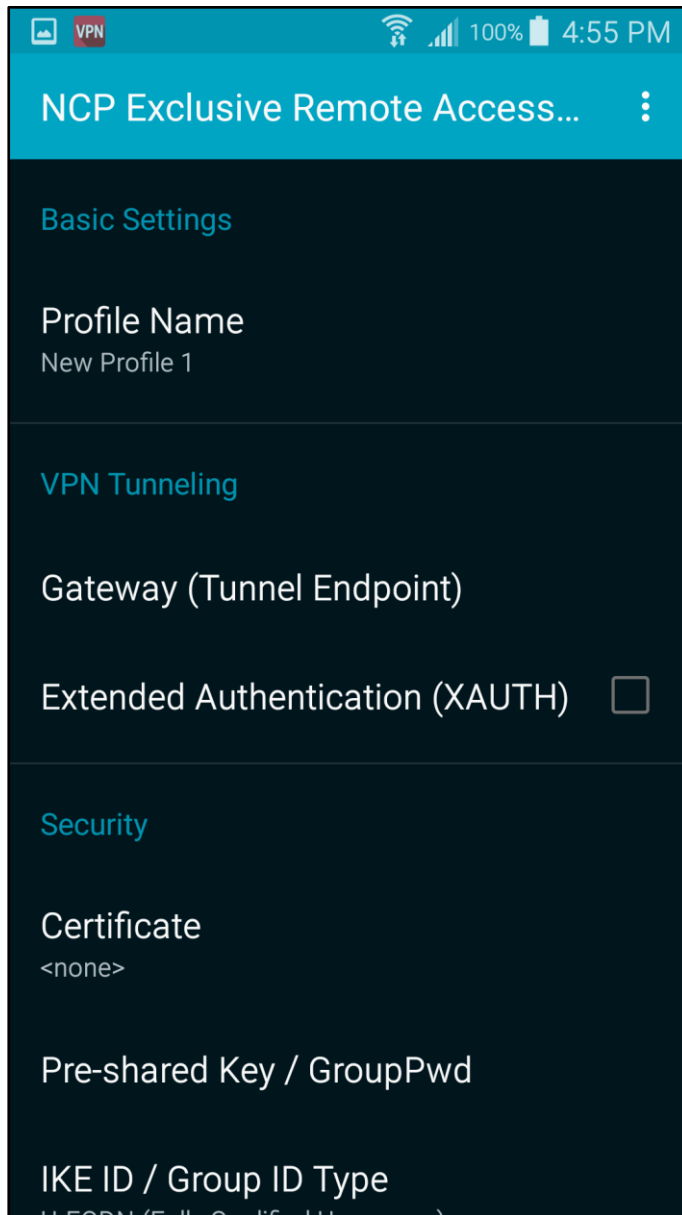
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

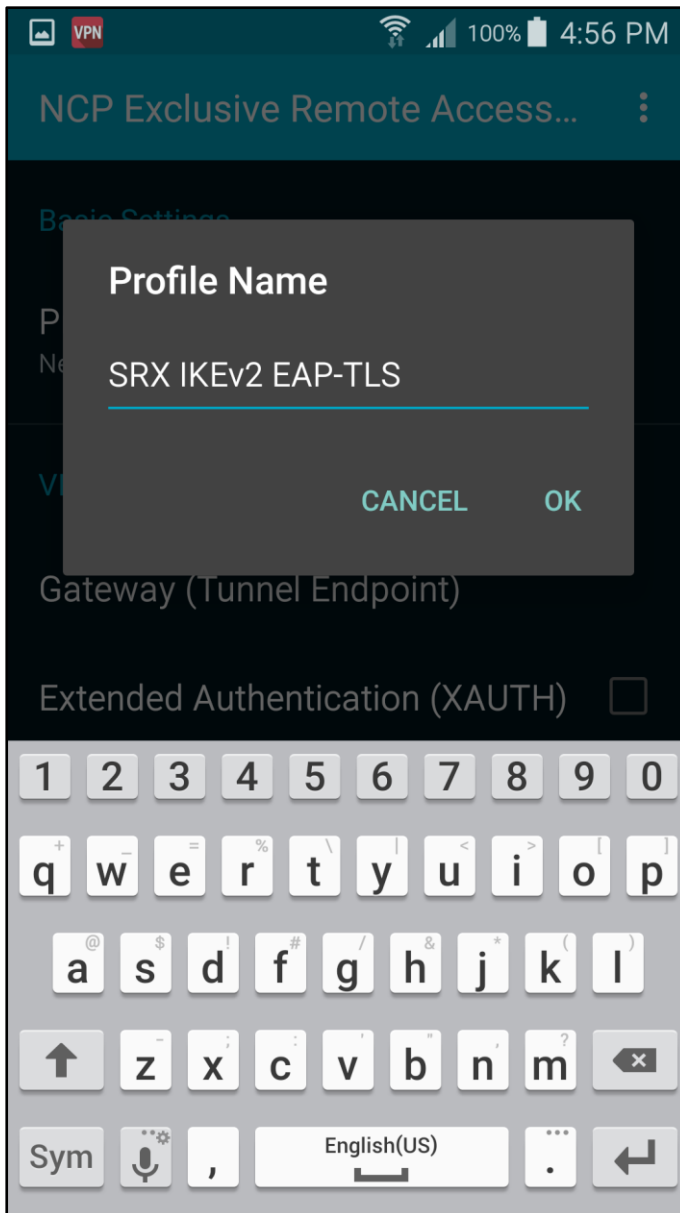


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enter profile name.

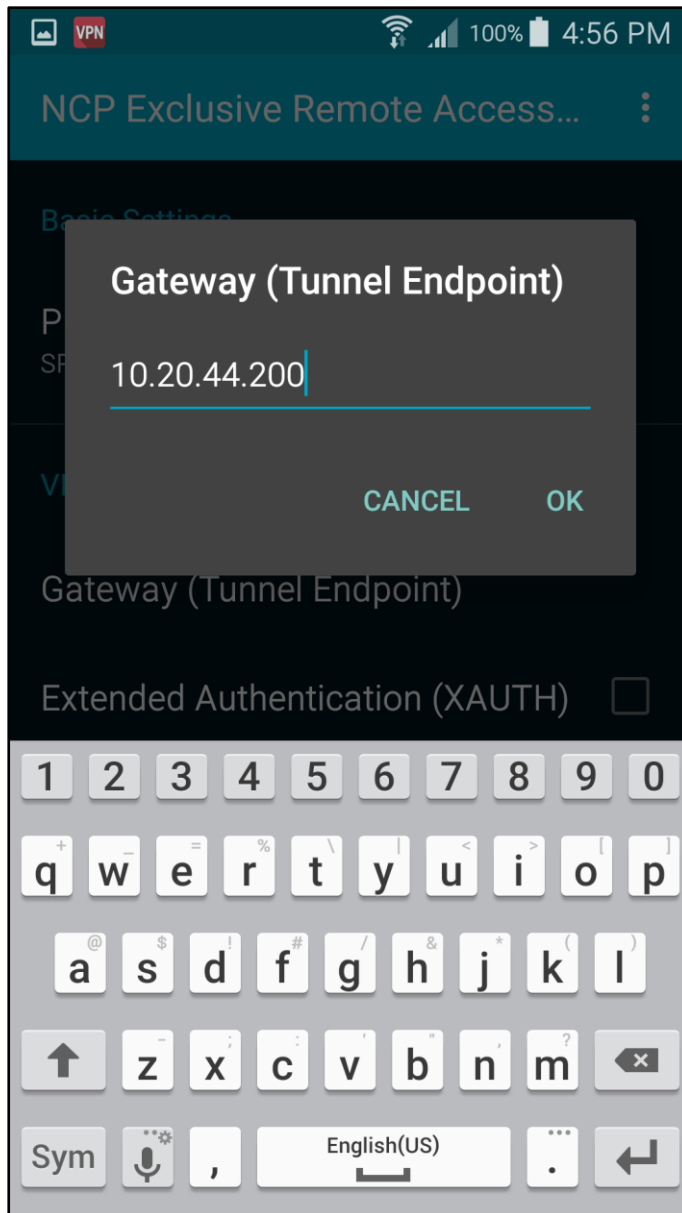


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enter name or IP address of Juniper SRX

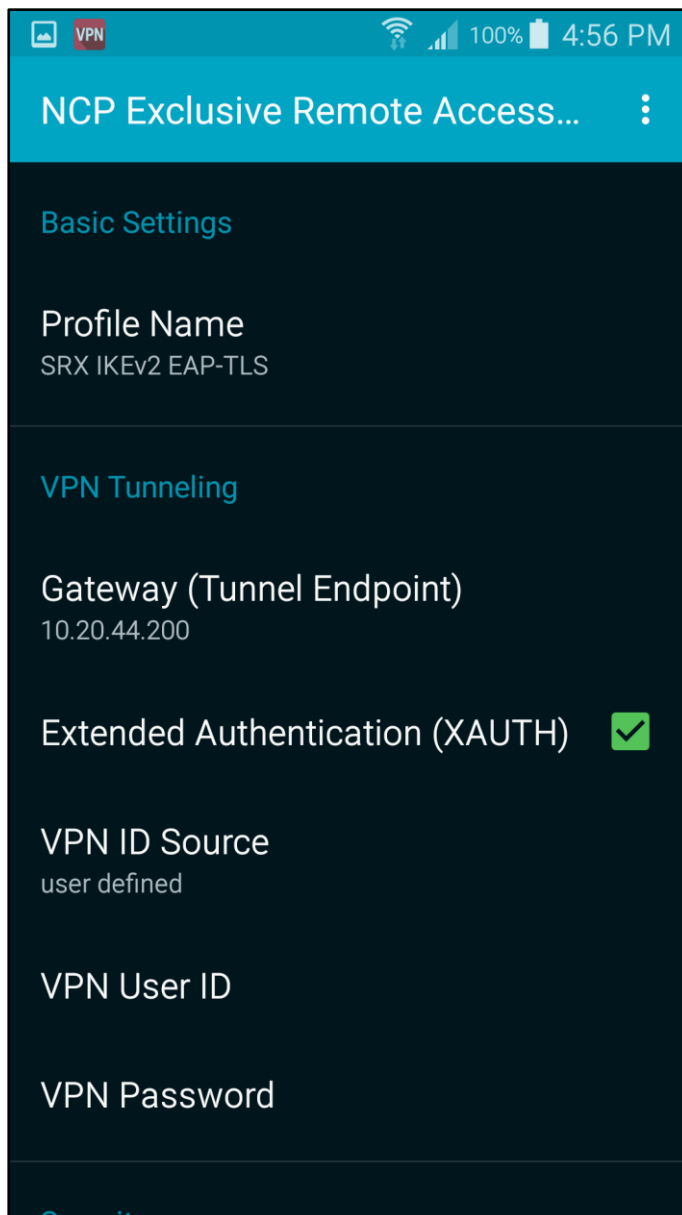


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

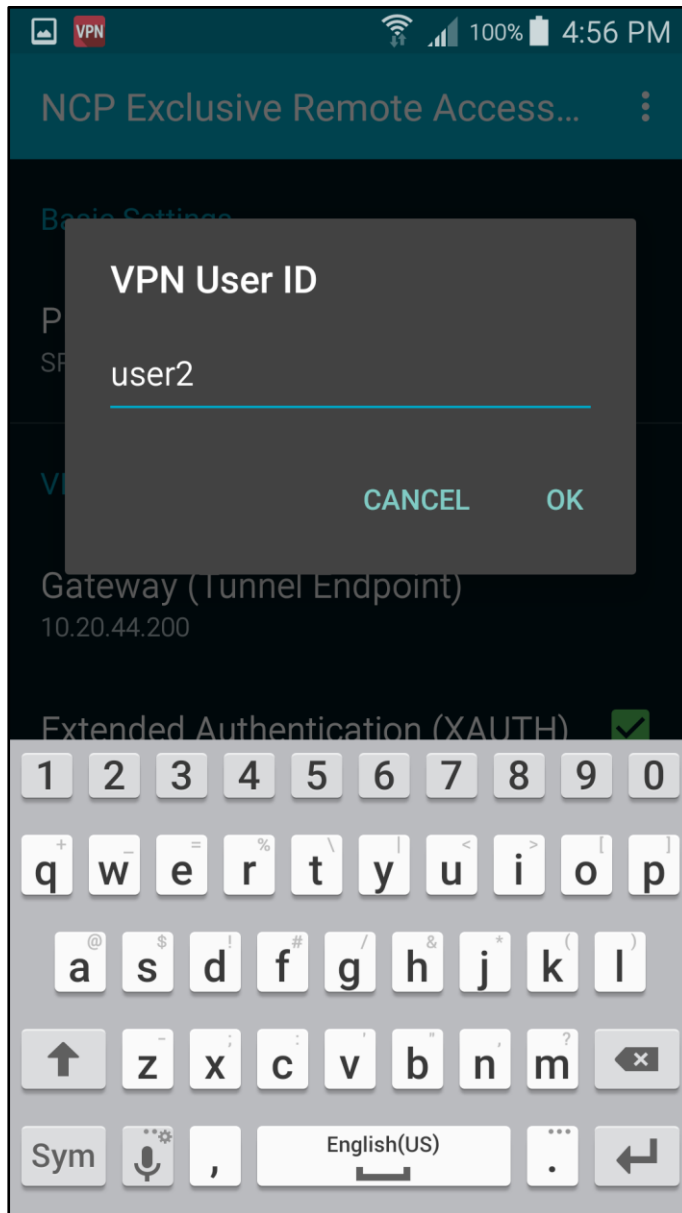


Enable Extended Authentication (XAUTH) and enter username and password



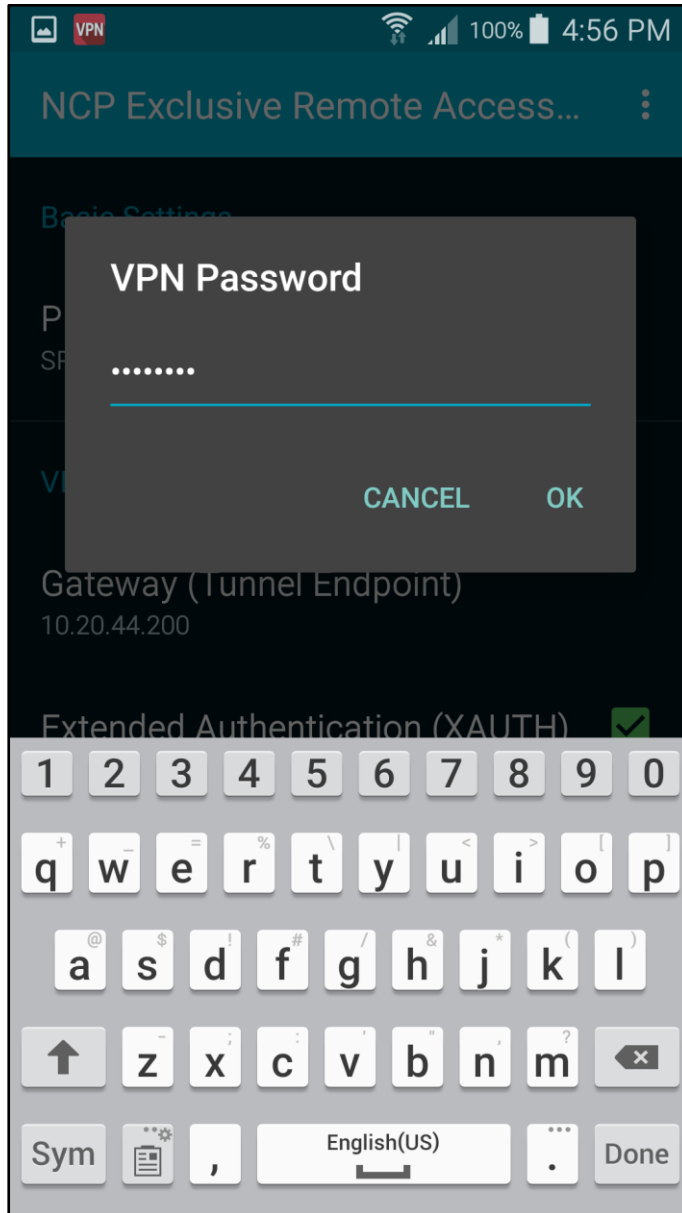
Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



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NCP Remote Access VPN Client for Juniper SRX

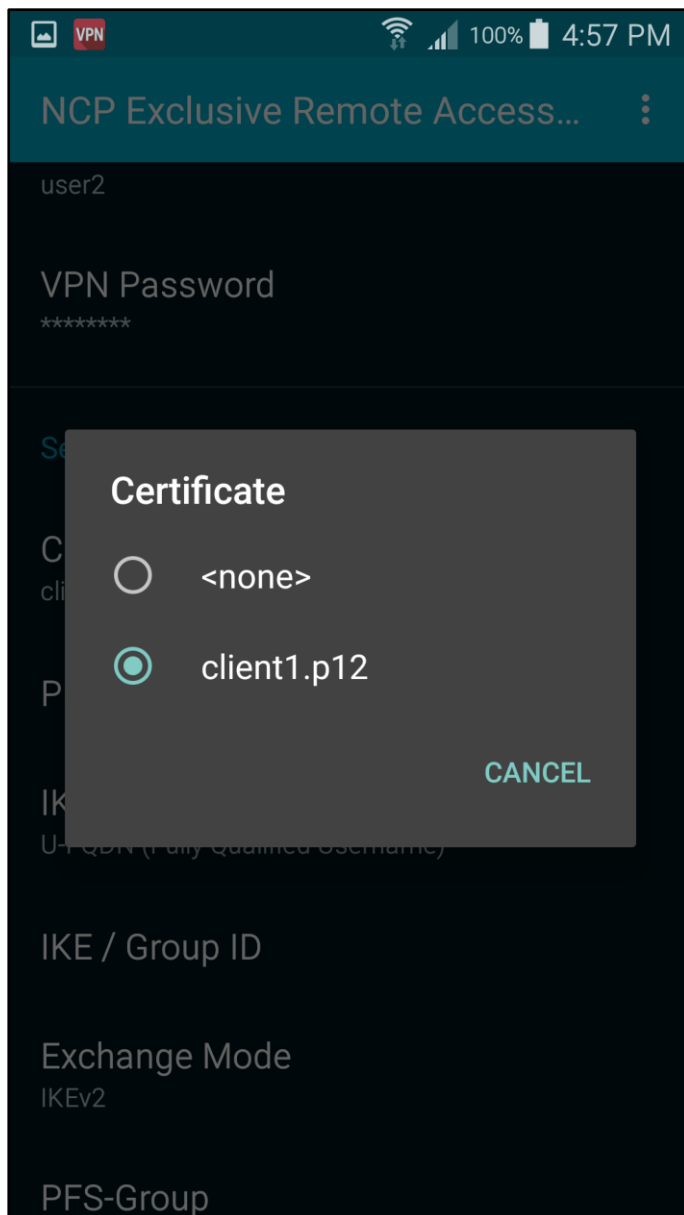


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Click on “Certificate” and choose the user certificate

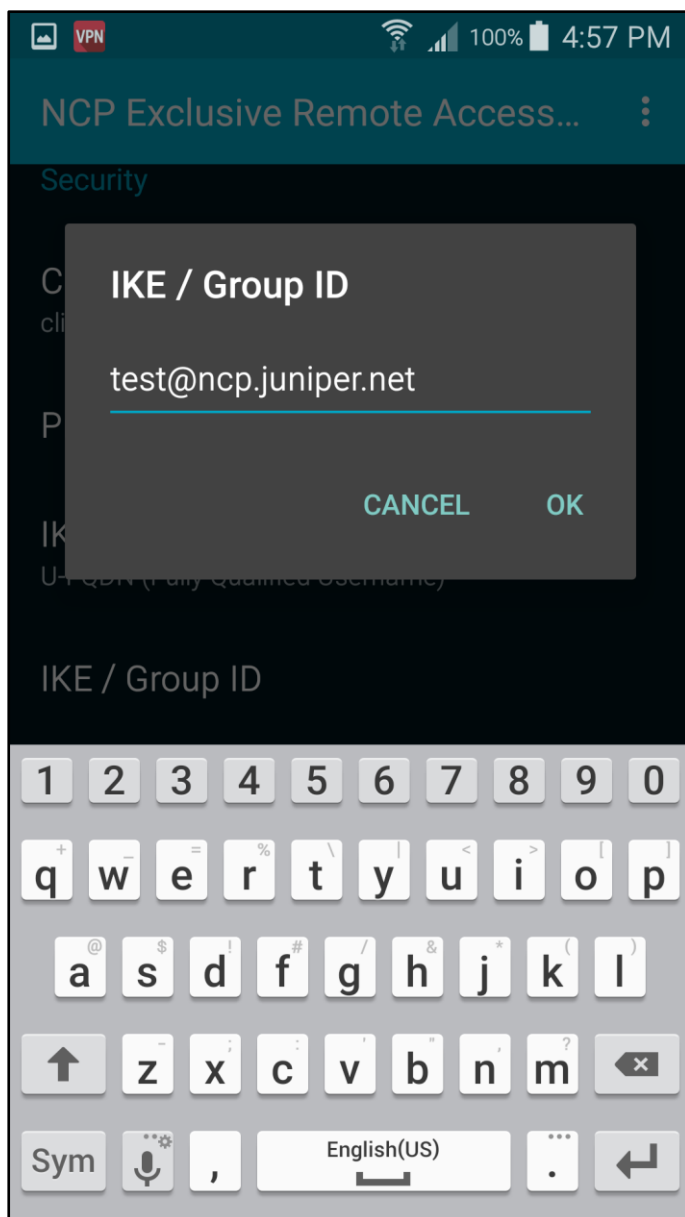


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enter IKE ID

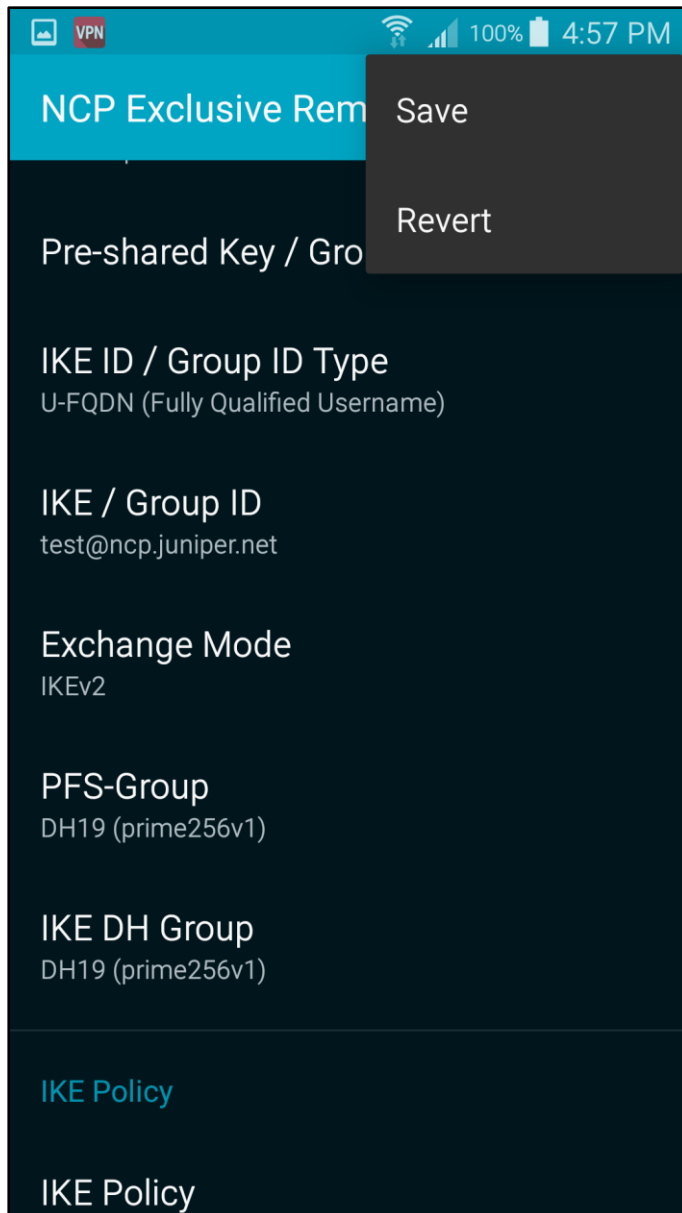


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Save the profile by clicking on “Save” in the menu or use the back/return button on the device



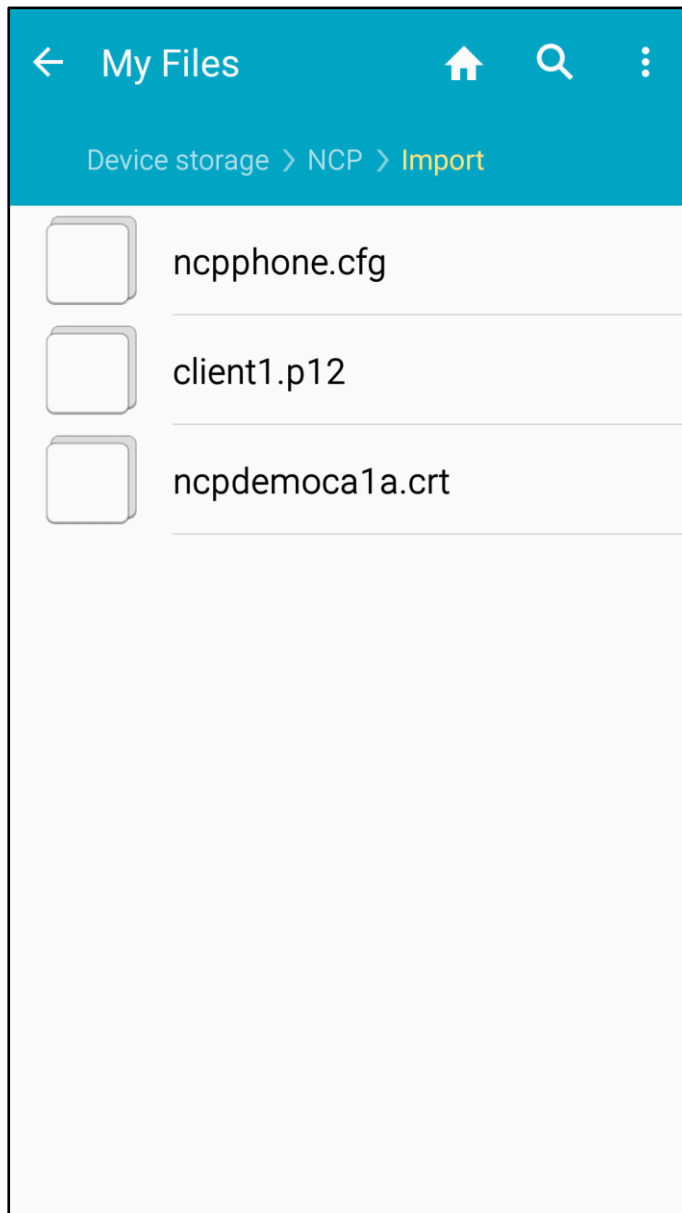
You can also import the configuration file `ncpphone.cfg` or `ncpphone.cnf`

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Copy the CA/issuer certificate, user certificate and the ncpphone.cfg or ncpphone.cfg into the folder Device Storage/NCP/Import

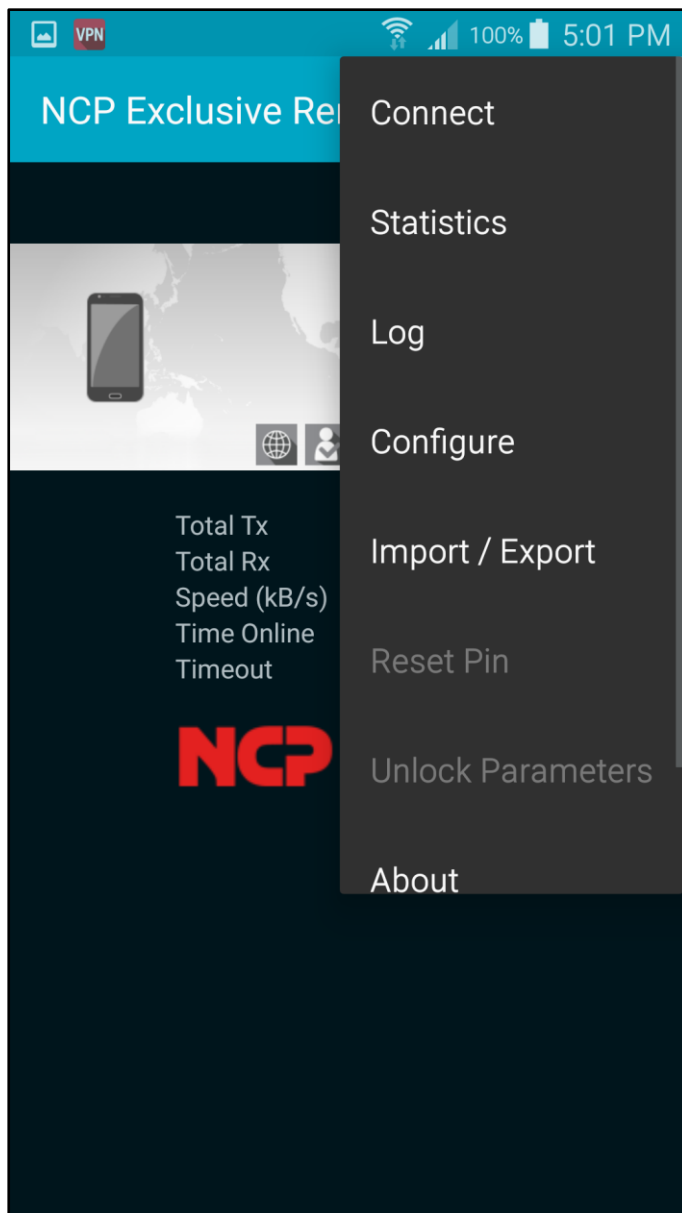


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

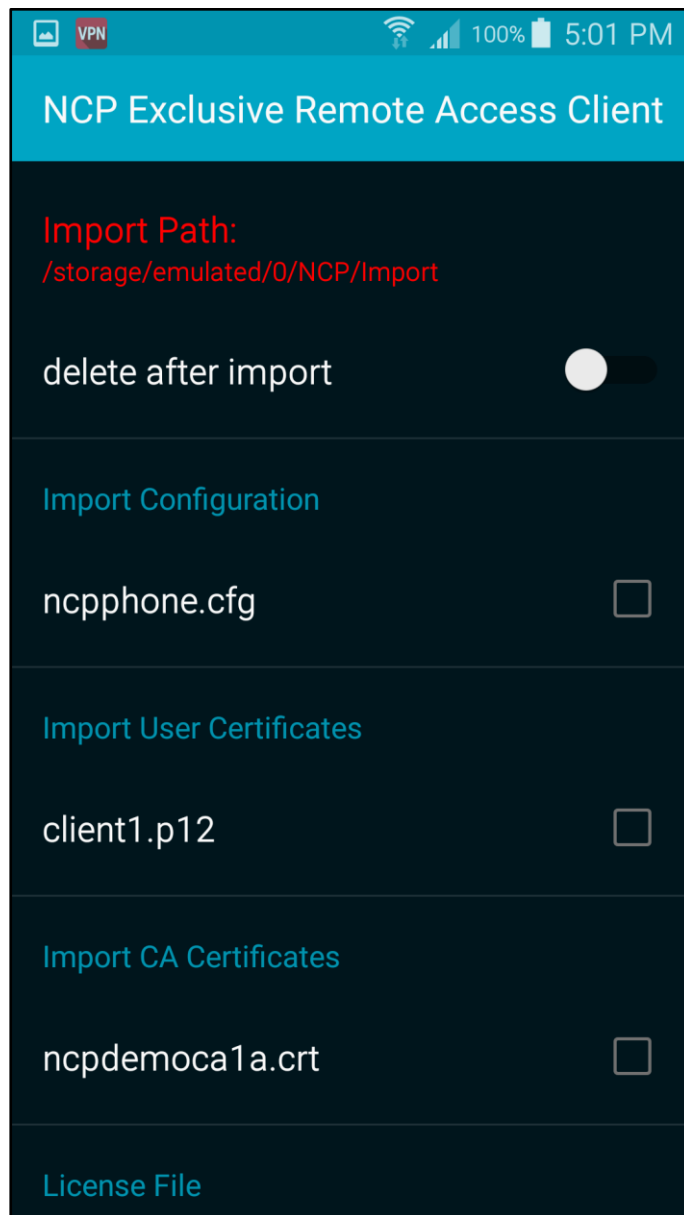


Open the “Import/Export” function in the menu



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

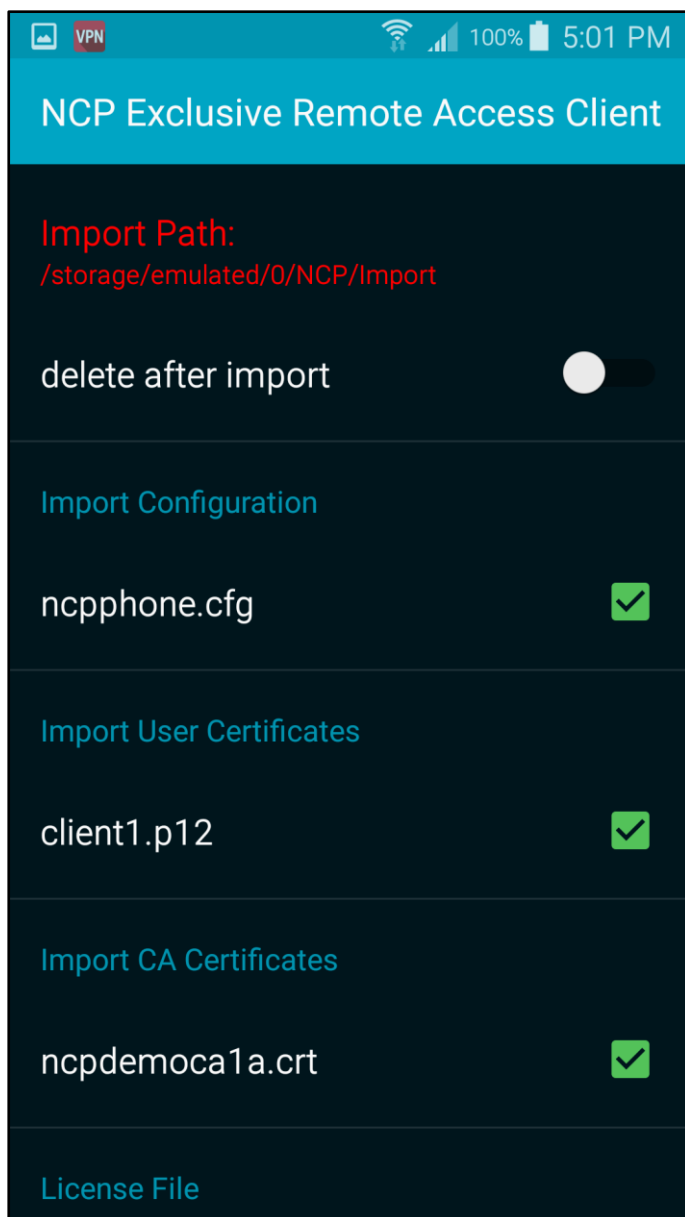


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enable the CA/issuer certificate and the configuration file and push the back/return button on the device



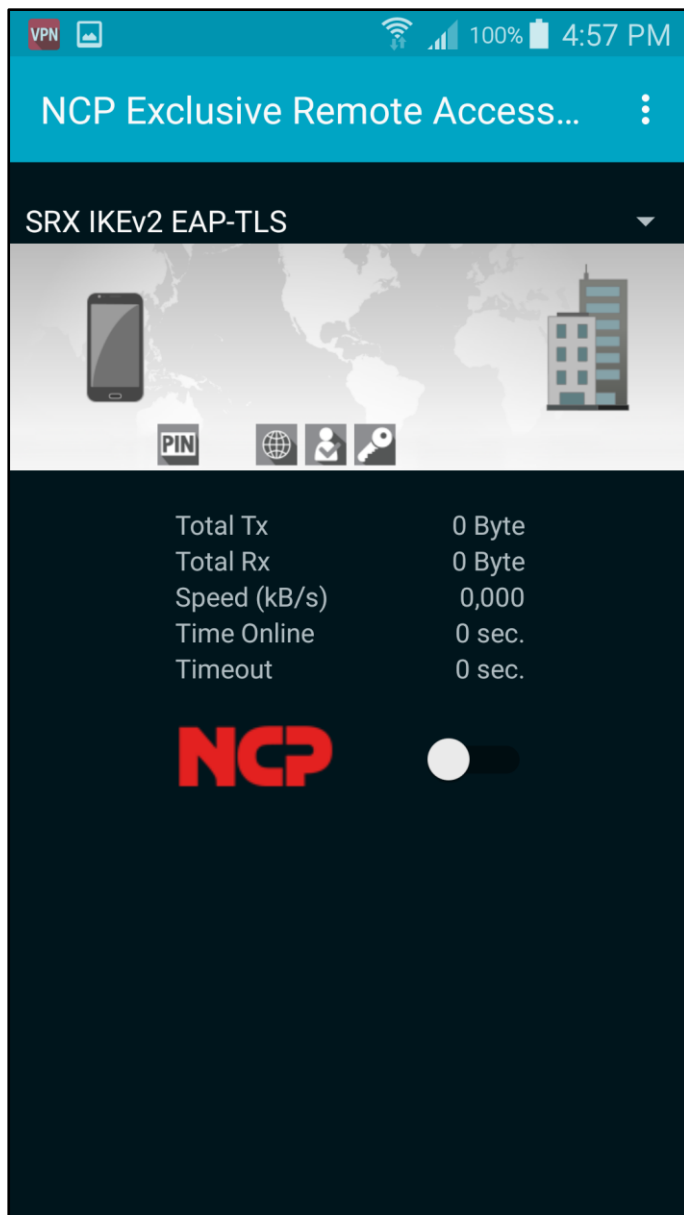
The CA/issuer certificate and the configuration will be imported

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Establish a connection by clicking the slide button

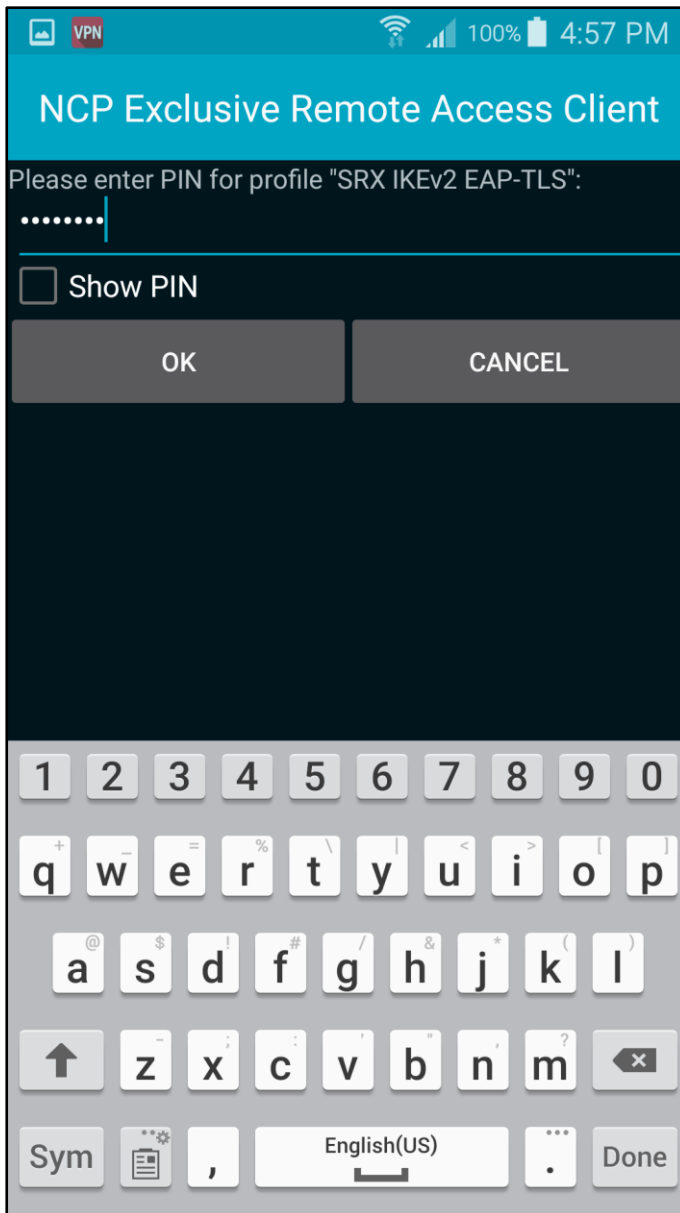


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

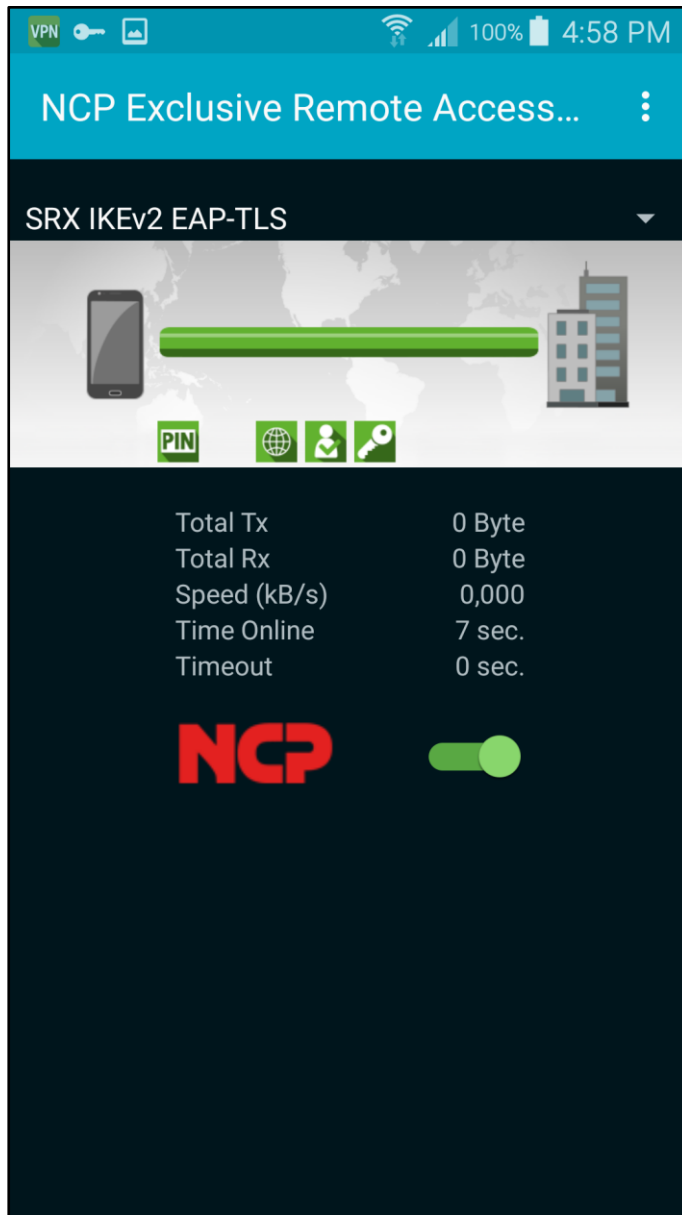


Enter PIN for user certificate



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

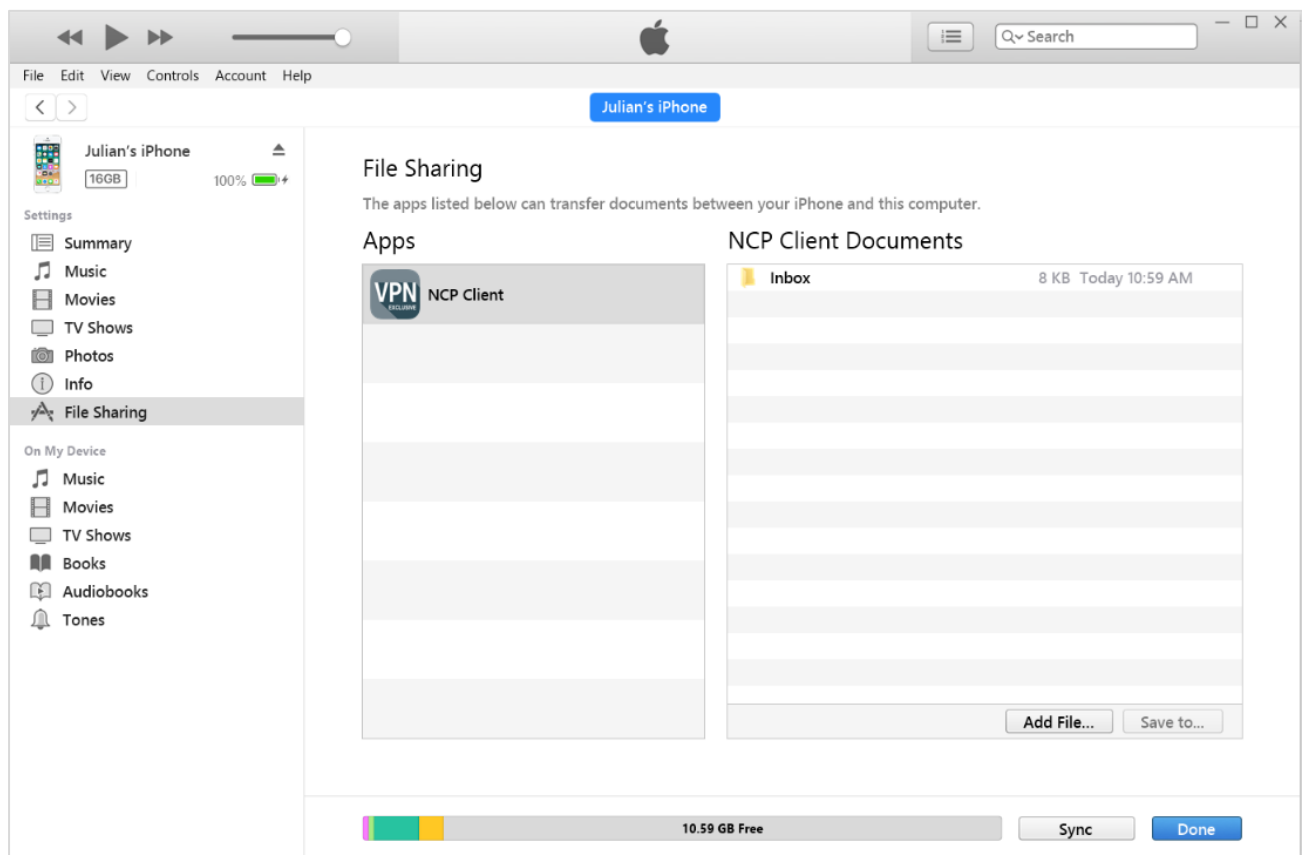
NCP Remote Access VPN Client for Juniper SRX



Configure NCP Exclusive Remote Access Client for iOS

The configuration of the iOS client is done on the NCP Secure Enterprise Management Server. After you create a configuration on the NCP Secure Enterprise Management Server, you are able to export the configuration file `ncpphone.ncpconfigsem`. The file ending needs to be a `.ncpconfigsem` file

- Import over iTunes
- Connect the iOS device with your computer
- Open iTunes on your computer
- Click on the device button
- Go to File Sharing and click on NCP Client

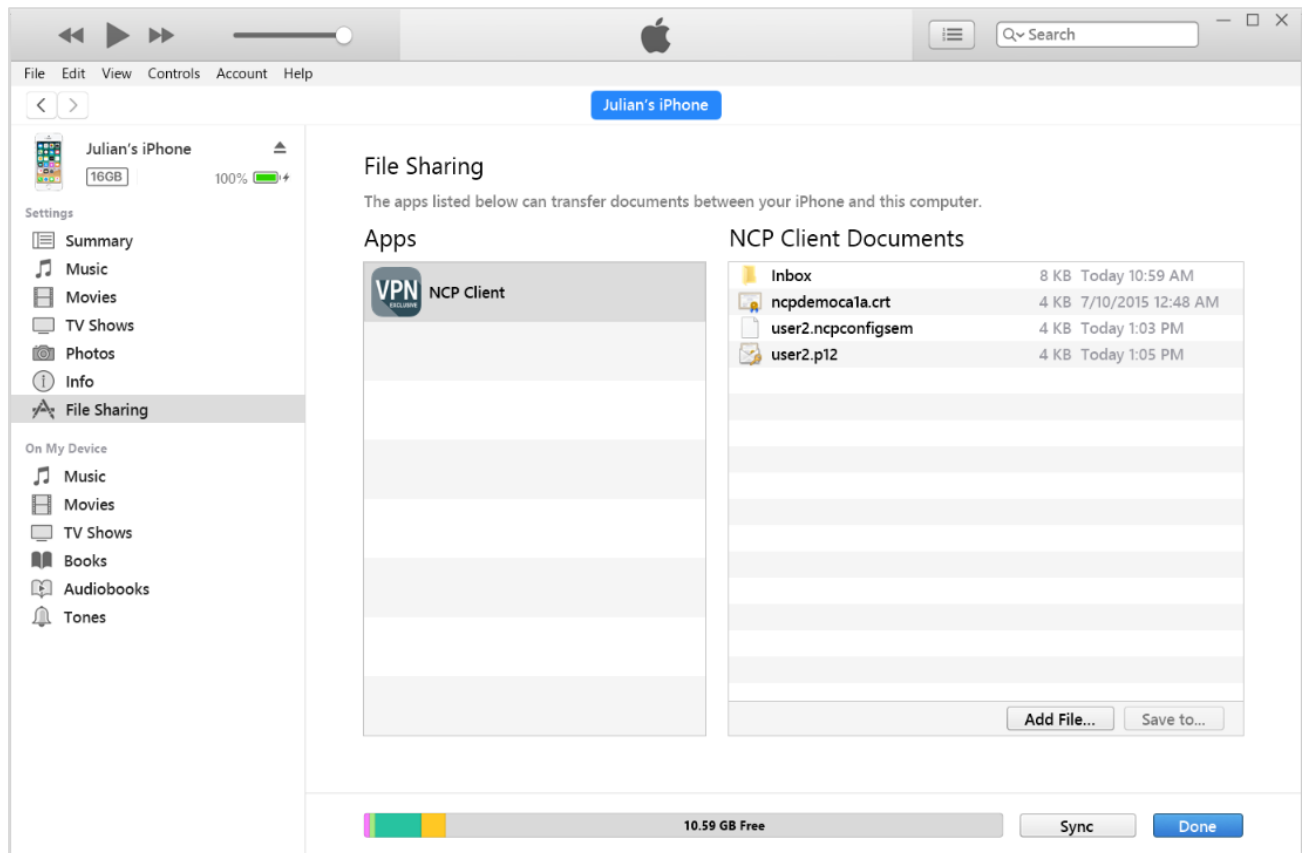


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



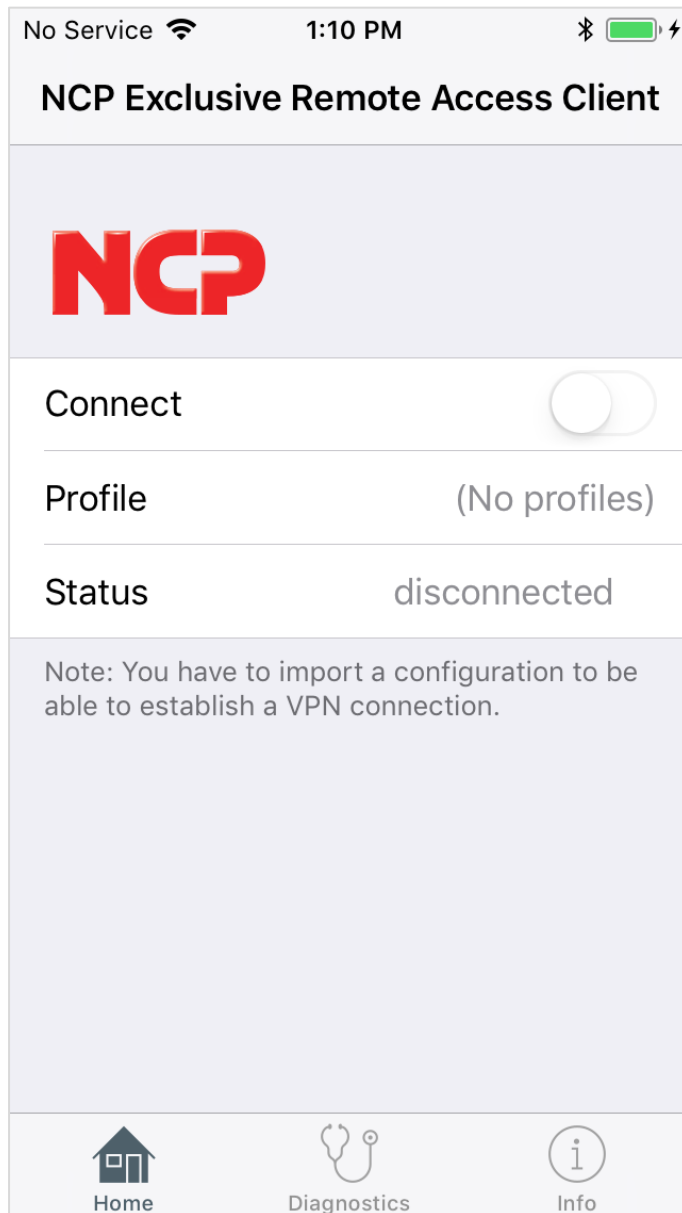
Add the configuration, the user certificate and the CA/issuer certificate via “Add File..” and click “Sync” to synchronize the information with the iOS device



Open the App on the iOS device

Configuration Guide

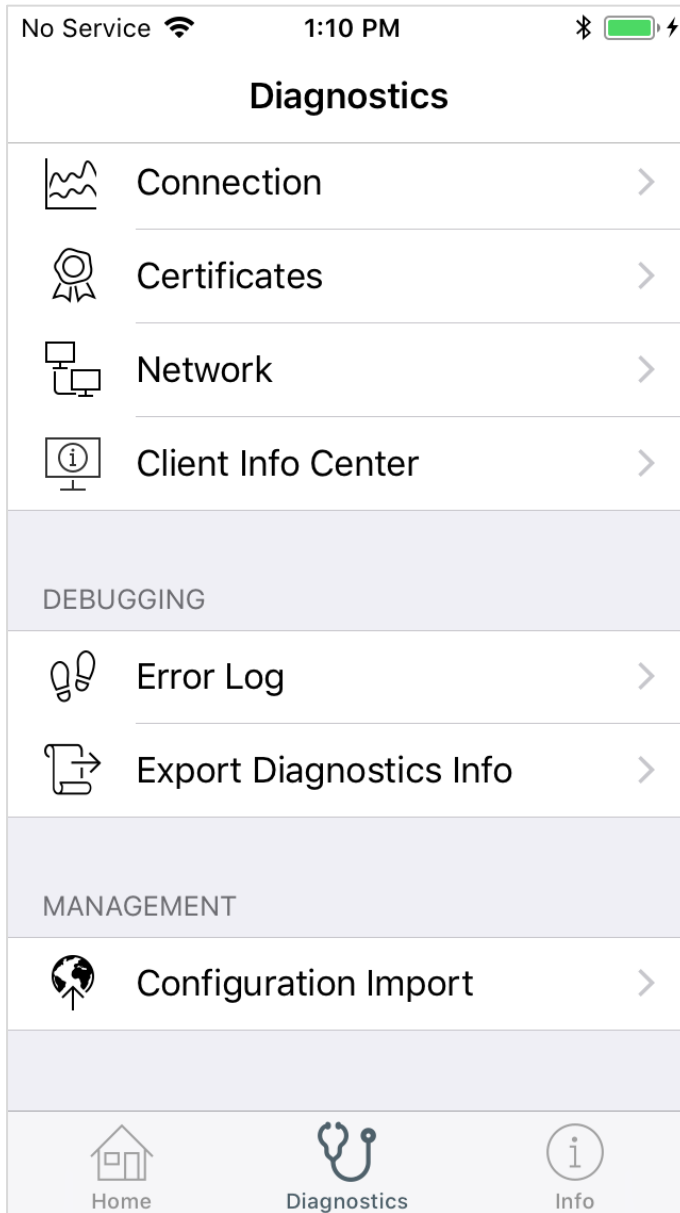
NCP Remote Access VPN Client for Juniper SRX



Go to “Diagnostics” and “Configuration Import”

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

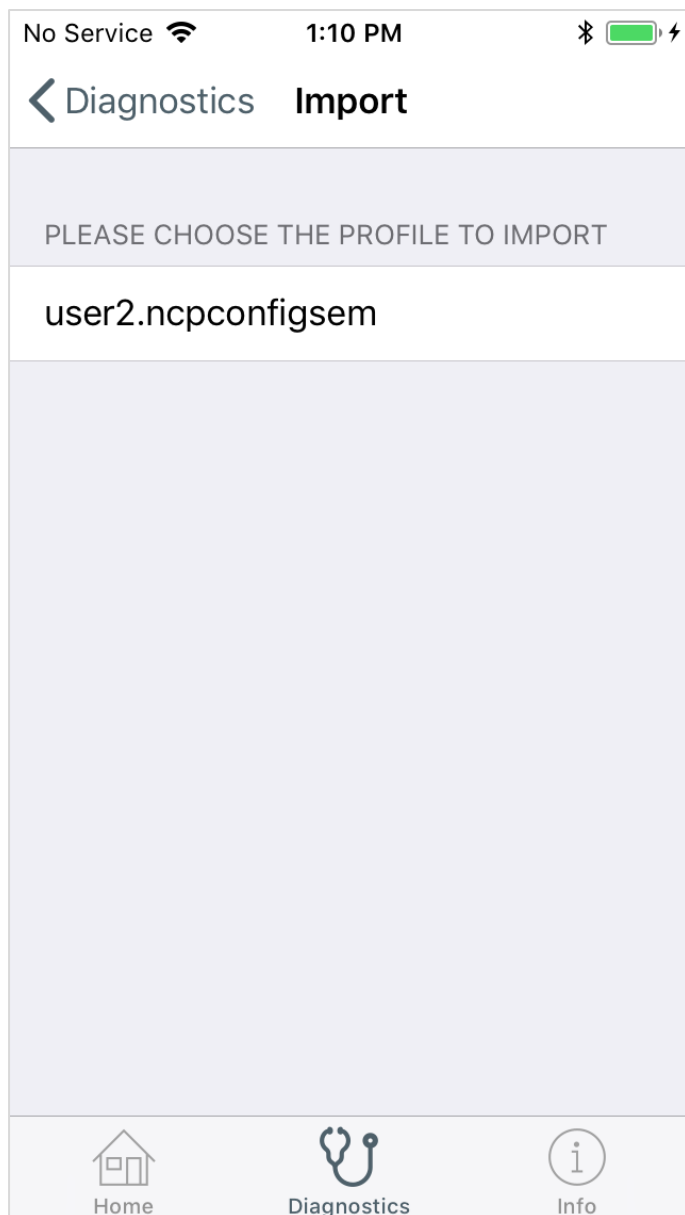


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Click on the .ncpconfigsem file to start the import process

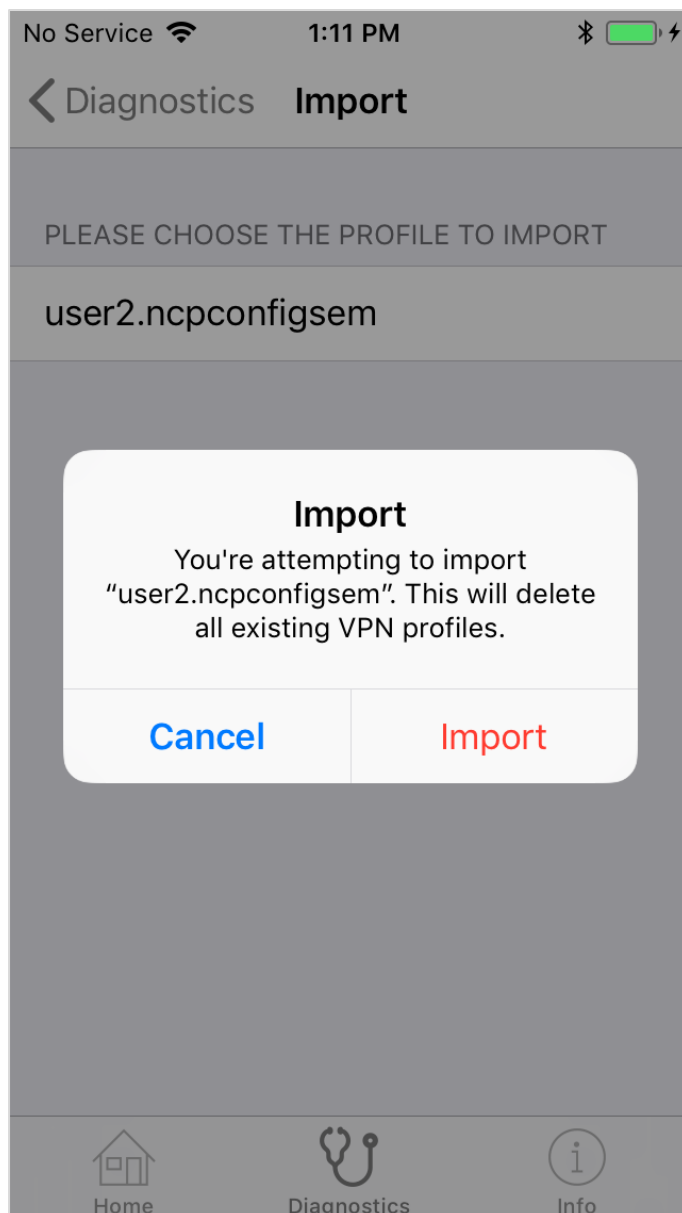


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Click on "Import"

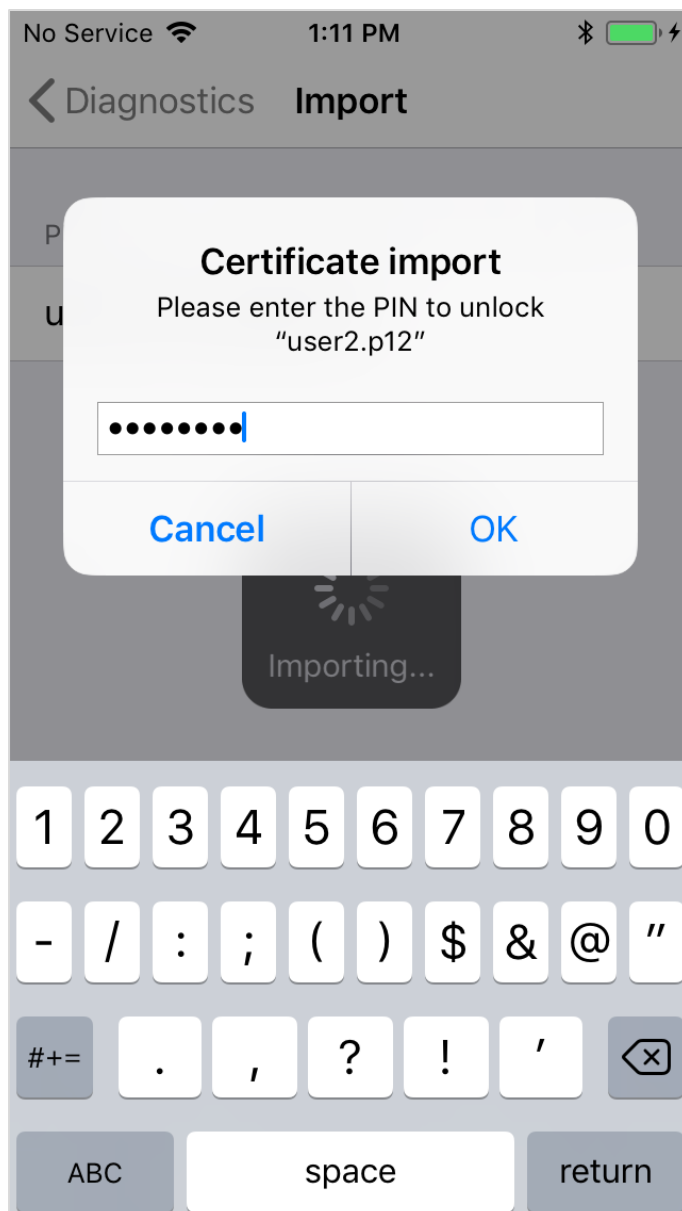


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enter the PIN of the user certificate

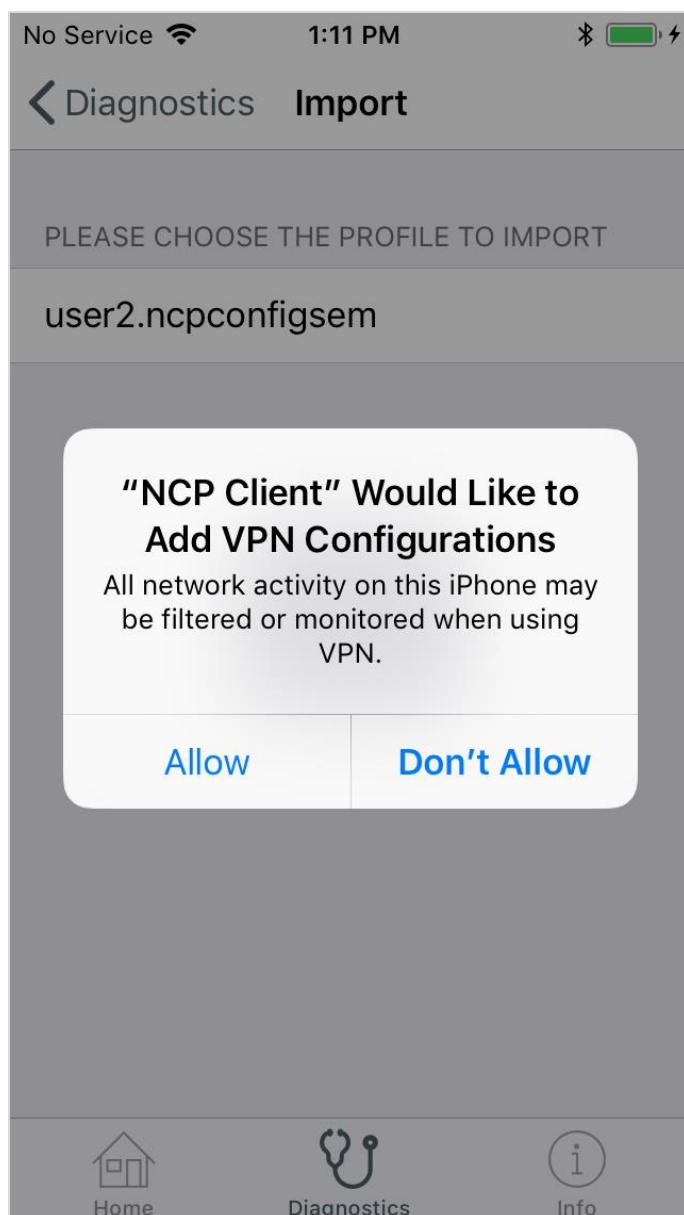


Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Click "Allow" to add another VPN configuration



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Enter your iPhone/iPad passcode to import the configuration

Enter iPhone passcode
Add VPN Configurations

○ ○ ○ ○ ○ ○

1	2 ABC	3 DEF
4 GHI	5 JKL	6 MNO
7 PQRS	8 TUV	9 WXYZ
	0 +	

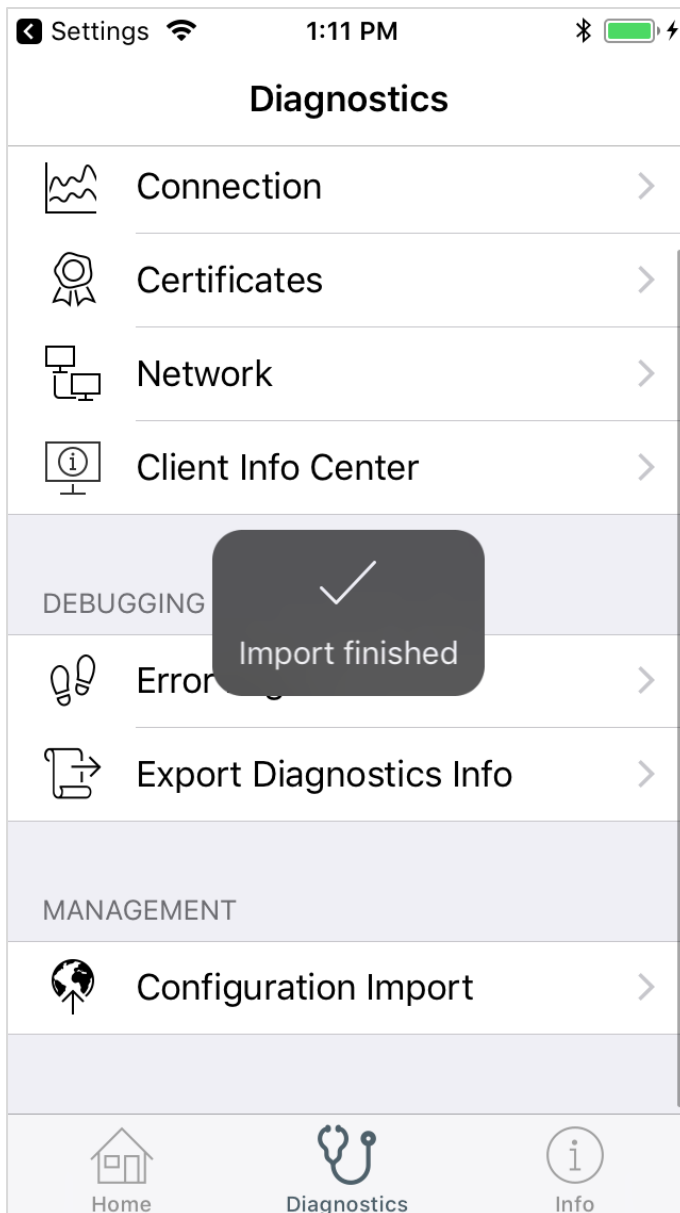
Cancel

Configuration Guide

NCP Remote Access VPN Client for Juniper SRX

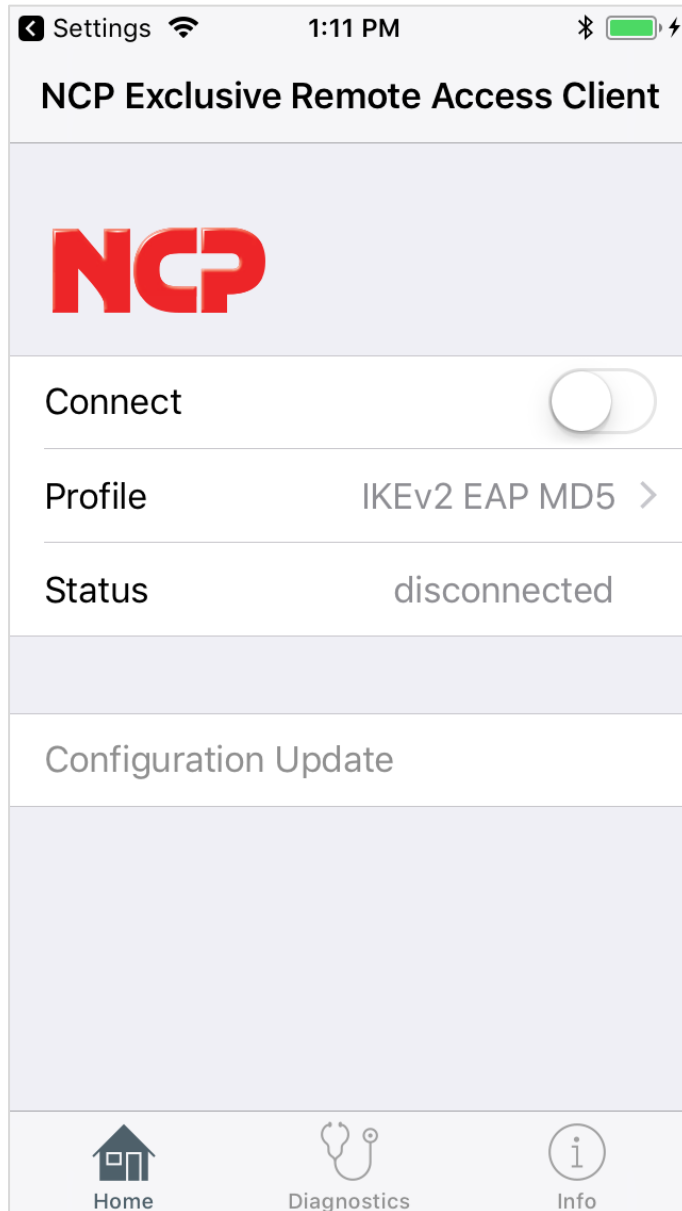


The import of the configuration was successful



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Configuration Guide

NCP Remote Access VPN Client for Juniper SRX



Click the slide button to establish the VPN connection

