



# SECURE CONNECT



Configuration Guide for The Classic  
Infrastructure on IBM Cloud

June 2024

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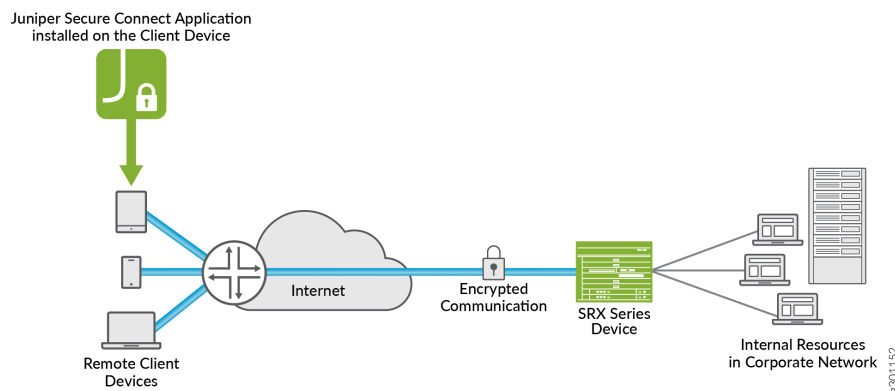
## What Is Juniper Secure Connect?

Juniper Secure Connect is a client-based SSL-VPN application that allows you to securely connect and access protected resources on your network. This application, when combined with the vSRX, helps organizations quickly achieve dynamic, flexible, and adaptable connectivity from devices anywhere across the globe. Juniper Secure Connect extends visibility and enforcement from client to cloud using secure VPN connections.

Juniper Secure Connect solution includes:

**vSRX Firewall**—Serves as an entry and exit point for communication between users with Juniper Secure Connect and the protected resources on the corporate network or in the cloud.

**Juniper Secure Connect application**—Secures connectivity between the protected resources and the host clients running Microsoft Windows, Apple macOS and iOS/iPadOS, and Android operating systems. The Juniper Secure Connect application connects through a VPN tunnel to the vSRX Series firewall to gain access to the protected resources in the network.

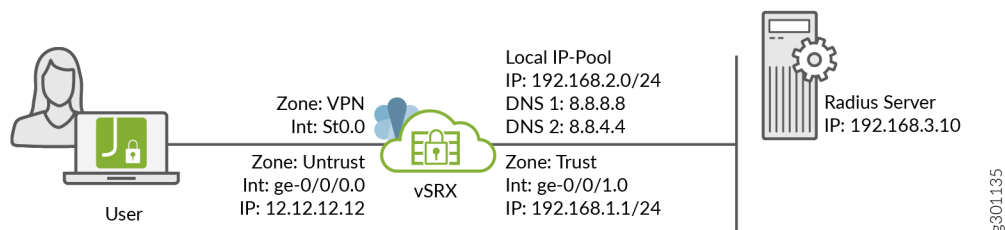


## BENEFITS OF JUNIPER SECURE CONNECT

- Secure remote access from anywhere with VPN
- Simple user experience
- Easy management of remote clients, policies, and VPN events from a single console (using J-Web or Security Director Cloud)

## DEPLOYMENT SCENARIO FOR JUNIPER SECURE CONNECT

For traffic to flow correctly, you can either include a route in the protected network for the IP address that you assign to the clients directs to the vSRX or NAT all client traffic coming into the protected networks.



[Click here](#) for more deployment scenarios.

# Preparing the vSRX for Juniper Secure Connect Configuration using J-Web

This section is intended to guide users on configuring Juniper Secure Connect on the vSRX in the IBM Cloud Classic Infrastructure using the Graphical User interface (J-Web)

Listed below is the step-by-step procedure on how to prepare the vSRX, and helpful links that will answer the most common questions when configuring Juniper Secure Connect.

**NOTE:** All vSRX versions **23.2R2-S1** and under have been provisioned with J-Web access disabled due to security vulnerabilities explained in detail under the following article [JSA72300](#)

Starting in **23.4R1-S2** the above JSA has been fixed and the vSRX will not face vulnerabilities while enabling web access to proceed with setting up Secure Connect as it is required for remote session connection to get established.

Before you proceed with enabling web-management access to the vSRX device make sure you are aware of your code version and the vulnerabilities mentioned above.

Using the command line prompt connected utilizing the root user via SHH or Telnet, execute the following command enable web-management:

```
root@vSRX:~ # cli
root@vSRX > edit
Entering configuration mode
The configuration has been changed but not committed

[edit]
root@vSRX# activate system services web-management

[edit]
root@vSRX# commit and-quit
commit complete
Exiting configuration mode
```

1. [Check Secure Connect License Using J-Web](#)
2. [Enable Port Traffic for IKE And ESP Protocols Using J-Web](#)
3. [Generate a Device Certificate Using J-Web](#)
4. [Enable Device Certificate for Web Management Access Using J-Web](#)
5. [Configure Dedicated HTTPS Access Using J-Web](#)
1. [Configure Juniper Secure Connect With Local Authentication Using J-Web](#)

## CHECK SECURE CONNECT LICENSES USING J-WEB

This guide was created using a vSRX with version code 23.2R2.

In the J-Web side pane, navigate to Device Administration > License Management

The screenshot shows the Juniper J-Web interface for License Management. The left sidebar is expanded to show 'License Management'. The main content area displays the 'License Management' page with a 'Feature Summary' table and an 'Installed Licenses' table.

**Feature Summary**

Feature	Licenses Used	Licenses Installed	Licenses Needed	License Expires on
Virtual Appliance	1	1	0	2025-10-01
remote-access- ipsec-vpn-client	0	2	0	Permanent
remote-access- juniper-std	0	502	0	2025-11-01
VCPU number scale	6	6	0	2025-10-01

**Installed Licenses**

Add	Delete	Update	Update Time	Display Keys	Download Keys
ID	State	Version	Group	Enabled Features	Expiration
<input type="checkbox"/> E20220531002	valid	4	No group information	Virtual Appliance - Virtual Appliance VCPU Scale - VCPU number scale	date-based, 2022-05-31 - 2025-10-01 date-based, 2022-05-31 - 2025-10-01
<input type="checkbox"/> E20240327001	valid	4	No group information	remote-access-juniper-std - remote-access-juniper-std	date-based, 2024-03-27 - 2025-11-01
<input type="checkbox"/> E20240327002	valid	4	No group information	remote-access-juniper-std - remote-access-juniper-std	date-based, 2024-03-27 - 2025-11-01
<input type="checkbox"/> E20240327003	valid	4	No group information	remote-access-juniper-std - remote-access-juniper-std	date-based, 2024-03-27 - 2025-11-01
<input type="checkbox"/> E20240327004	valid	4	No group information	remote-access-juniper-std - remote-access-juniper-std	date-based, 2024-03-27 - 2025-11-01
			..	remote-access-...	date-based.

**Note:** All vSRX firewalls will come with two built-in remote-access concurrent connections.

If you need to order additional remote access VPN user licenses for the Juniper vSRX you may purchase either as part of your IBM Cloud Gateway order or by adding to an existing IBM Cloud Juniper Gateway. The licenses support 50 users per license, and you can order up to 10 licenses. They will be automatically added to the existing vSRX instance when the purchase is complete.

To order your new licenses from your IBM Cloud Portal, visit the following link for more details.

<https://cloud.ibm.com/docs/vsrx?topic=vsrx-getting-started#choosing-license>

To check your existing purchased licenses, visit the following link for more details.

<https://cloud.ibm.com/docs/vsrx?topic=vsrx-vsrx-licenses>

## ENABLE PORT TRAFFIC FOR IKE AND ESP PROTOCOLS USING J-WEB

After configuring the following firewall filters, the specified ports will be allowed to communicate to the external interface of the vSRX, in our case will be the remote users connecting over SSL-VPN.

In the J-Web side pane, navigate to **Network > Firewall Filters / IPV4** and click on 'PROTECT-IN' filter.

Network / Firewall Filters / IPV4

### IPV4 ?

**IPv4 Term Summary for Filter 'PROTECT-IN'**

List  per page

	Term name	Action	Protocol	Source Address	Source Port	Destination Address	Destination Port	Address	Port
↓X	<a href="#">PING</a>	✓	*	*	*	163.75.74.98/32 10.243.57.67/32	*	*	*
↑↓X	<a href="#">SSH</a>	✓	*	*	*	163.75.74.98/32 10.243.57.67/32	ssh	*	*
↑↓X	<a href="#">WEB</a>	✓	*	*	*	163.75.74.98/32 10.243.57.67/32	*	*	8443
↑↓X	<a href="#">DNS</a>	✓	*	*	53	*	*	*	*

At the bottom of the screen, you will find an area where you can add new IPv4 terms to the 'PROTECT-IN' filter.

### 1. Create filter for ESP

Type ESP under the term name and hit the **Add** button.

**Add New IPv4 Term**

Term name

After Final IPv4 Term ?

Location  After IPv4 Term  ?

Before IPv4 Term  ?

**Search**

IPv4 Term name

Number of Items to Display  ?

Once you add the new term to the filter you will see it under the table. Click the new term ESP and define the acceptance criteria.

Select **Match Network** at the upper tab menu and select **esp** protocol by expanding the predefined protocol dropdown.

The screenshot shows the configuration page for an IPv4 Firewall Filter. The breadcrumb navigation is "Network / Firewall Filters / IPv4". The page title is "IPv4". There are six tabs: "Match Source", "Match Destination", "Match Source or Destination", "Match Interface", "Match Network" (which is selected), and "Action". Below the tabs, there is a descriptive text: "Specify the criteria for this firewall term which must be matched. Some options below allow the inverse to be matched. Check the 'Except' checkbox above the criteria that you wish to reverse. Click on the 'Action' tab above to define what happens when the firewall criteria for this firewall term is matched." Under the "Match Packet and Network" section, several criteria are listed with checkboxes: "First Fragment", "Is Fragment", "TCP Established", "TCP Initial", and "TCP Flags". The "Protocol" criterion is expanded, showing an "Except" checkbox (unchecked) and a dropdown menu with "esp" selected. Below the dropdown is an "or" field with an empty input box. At the bottom of this section are "Add" and "Delete" buttons. A list of other criteria is visible at the bottom of the page, including "ICMP Type", "ICMP Code", "Fragment Offset", "Precedence", "DSCP", "TTL", "Packet Length", "Forwarding Class", "IP Options", and "IPSec ESP SPI".

Click the **Add** button and then click on **Action** at the upper tab menu.



Define Action to accept traffic and then enable the log knob to save all protocol handshake activity.

Network / Firewall Filters / IPV4

## IPV4 ?

Match Source   Match Destination   Match Source or Destination   Match Interface   Match Network   **Action**

Specify the actions that will take place if the match criteria for this term are met. Define what match criteria must be met for this action to occur by clicking on the other tabs above.

### Action

Nothing ?

Accept ?

Discard ? Accounting  ?

Reject ? Reason

Next Term ?

Routing Instance ?

### Other Actions

Forwarding Class ?

Count ?

Virtual Channel ?

Log ?

Syslog ?

Port Mirror ?

Loss Priority ?

Hit **OK** and then commit the Configuration.

## 2. Create filter for IKE-500

Navigate back to Network > Firewall Filters / IPV4 and click on 'PROTECT-IN' filter.

Type **IKE-500** under the term name and hit the **Add** button.

**Add New IPv4 Term**

Term name:

Location:

- After Final IPv4 Term ?
- After IPv4 Term  ?
- Before IPv4 Term  ?

Once you add the new term to the filter you will see it under the table. Click the new term IKE-500 and define the acceptance criteria.

Select **Match Source or Destination** at the upper tab menu and expand port and type 500 and hit **OK**.

Network / Firewall Filters / IPV4

**IPV4** ?

Match Source | Match Destination | **Match Source or Destination** | Match Interface | Match Network | Action

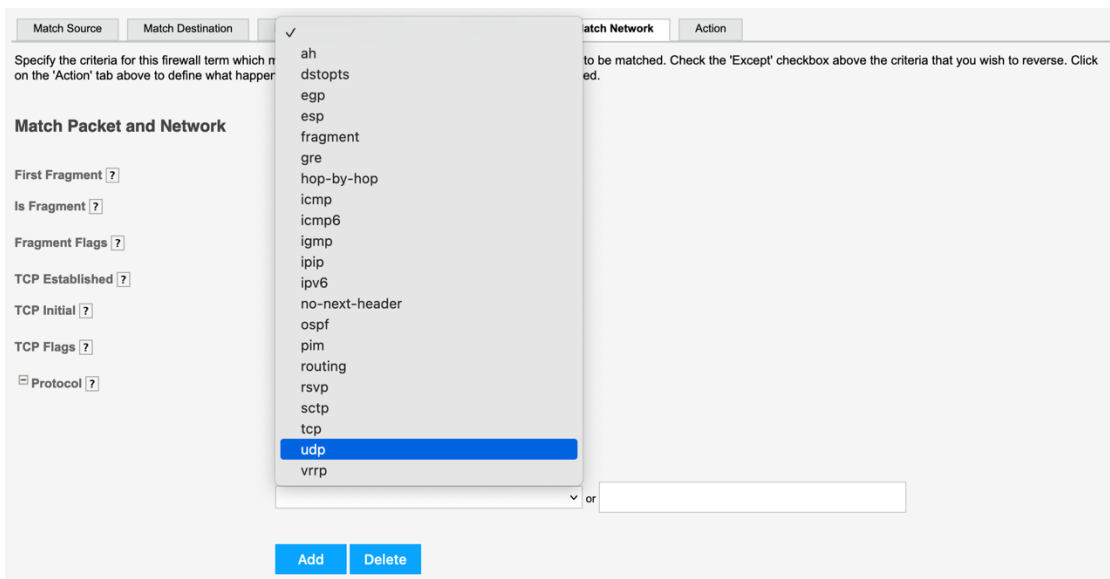
Specify the criteria for this firewall term which must be matched. Some options below allow the inverse to be matched. Check the 'Except' checkbox above the criteria that you wish to reverse. Click on the 'Action' tab above to define what happens when the firewall criteria for this firewall term is matched.

**Match Source or Destination**

- Address ?
- Prefix List ?
- Port ?
  - Except  ?
  - 
  - or

Select **Match Network** at the upper tab menu and select **UDP** protocol by expanding the predefined protocol dropdown.

Click the **Add** button and then click on **Action** at the upper tab menu.



Define Action to accept traffic and then enable the log knob to save all protocol handshake activity.

Network / Firewall Filters / IPv4

## IPv4

Match Source | Match Destination | Match Source or Destination | Match Interface | Match Network | **Action**

Specify the actions that will take place if the match criteria for this term are met. Define what match criteria must be met for this action to occur by clicking on the other tabs above.

### Action

Nothing ?

**Accept** ?

Discard ? Accounting  ?

Reject ? Reason

Next Term ?

Routing Instance ?

### Other Actions

Forwarding Class ?

Count ?

Virtual Channel ?

Log ?

Syslog ?

Port Mirror ?

Loss Priority ?

Hit **OK** and then commit the Configuration.

### 3. Create filter for IKE-4500

4. Type IKE-4500 under the term name and hit the **Add** button.

**Add New IPv4 Term**

Term name:

Location:

- After Final IPv4 Term - After IPv4 Term  - Before IPv4 Term

5. Once you add the new term to the filter you will see it under the table. Click the new term IKE-4500 and define the acceptance criteria.

6. Select **Match Source or Destination** at the upper tab menu and expand Port and type 4500 and hit **OK**.

Network / Firewall Filters / IPv4

**IPv4** 

Match Source | Match Destination | **Match Source or Destination** | Match Interface | Match Network | Action

Specify the criteria for this firewall term which must be matched. Some options below allow the inverse to be matched. Check the 'Except' checkbox above the criteria that you wish to reverse. Click on the 'Action' tab above to define what happens when the firewall criteria for this firewall term is matched.

**Match Source or Destination**

- Address - Prefix List - Port

Except  

or

7. Select **Match Network** at the upper tab menu and select **udp** protocol by expanding the predefined protocol dropdown.

Network / Firewall Filters / **IPV4**

## IPV4 ?

Match Source   Match Destination   Match Source or Destination   Match Interface   **Match Network**   Action

Specify the criteria for this firewall term which must be matched. Some options below allow the inverse to be matched. Check the 'Except' checkbox above the criteria that you wish to reverse. Click on the 'Action' tab above to define what happens when the firewall criteria for this firewall term is matched.

### Match Packet and Network

First Fragment ?

Is Fragment ?

Fragment Flags ?

TCP Established ?

TCP Initial ?

TCP Flags ?

Protocol ? **Except**  ?

udp

or

8. Click the **Add** button and then click on **Action** at the upper tab menu.

Network / Firewall Filters / **IPV4**

## IPV4 ?

Match Source   Match Destination   Match Source or Destination   Match Interface   Match Network   **Action**

Specify the actions that will take place if the match criteria for this term are met. Define what match criteria must be met for this action to occur by clicking on the other tabs above.

### Action

Nothing ?  
 **Accept** ?  
 Discard ? Accounting  ?  
Reason  
 Reject ?  ?  
 Next Term ?  
 Routing Instance ?  ?

### Other Actions

Forwarding Class ?  ?  
Count ?   
Virtual Channel ?   
Log ?   
Syslog ?   
Port Mirror ?   
Loss Priority ?  ?

**OK** **Cancel**

9. Define Action to accept traffic and then enable the log knob to save all protocol handshake activity.

10. Hit **OK** and then commit the Configuration.

## GENERATE A DEVICE CERTIFICATE USING J-WEB

Ensure that the vSRX uses either a signed certificate or a self-signed certificate instead of the default system-generated certificate. Log in to your vSRX using J-Web interface using your preferred browser.

**https://<your-ip\_address>:8443/**

After logging in successfully, you land on the Basic Settings page, In the J-Web side pane, navigate to **Device Administration > Certificate Management > Certificates**

Then click the **Create** button and select **Device Certificate > Local Self-Signed**

Create Device Certificate (Local Self-Signed) ?

Digital signature* ?	<input type="text" value="RSA - 2048"/>
Name* ?	<input type="text" value="secure-connect-"/>
<b>Subject</b> Minimum of one field required	
Domain component ?	<input type="text" value="ibmonvsrx.net"/>
Common name* ?	<input type="text" value="sc"/>
Organizational unit name ?	<input type="text" value="demo"/>
Organizational name ?	<input type="text" value="Juniper Networks Inc"/>
Serial number ?	<input type="text" value="7a5f9dbe944b"/>
Locality ?	<input type="text" value="Sunnyvale"/>
State ?	<input type="text" value="California"/>
Country ?	<input type="text" value="US"/>
<b>Subject Alt Name</b>	
Domain name* ?	<input type="text" value="sc.vsrxonibm.net"/>
Email ?	<input type="text" value="gatekeeper@vsrxonibm.net"/>
IPv4 address ?	<input type="text" value="163.75.74.98"/>
IPv6 address ?	<input type="text" value="aa80::58:c9e0:7b50:9e95"/>

Cancel



## ENABLE DEVICE CERTIFICATE FOR WEB MANAGEMENT ACCESS USING J-WEB

After creating a self-signed or loading a signed certificate, you must bind the certificate to the vSRX by navigating to **Device Administration > Basic Settings > System Services > HTTPS > HTTPS certificate** and select Device Certificate, then select the one you created in the previous step.

Device Administration / Basic Settings

### Basic settings ?

> System Identity  
Configure the hostname, username, and password

> Time  
Synchronize your device time with system time or NTP server information can be updated

> Management and Loopback Address  
Configure management IP address and loopback address

System Services

Telnet ?

SSH ?

FTP ?

NETCONF ?

Junoscript over SSL ?

HTTPS ?

Interfaces ?

All Specific

To select, move items from Available to Selected box.

8 Available  → 3 Selected

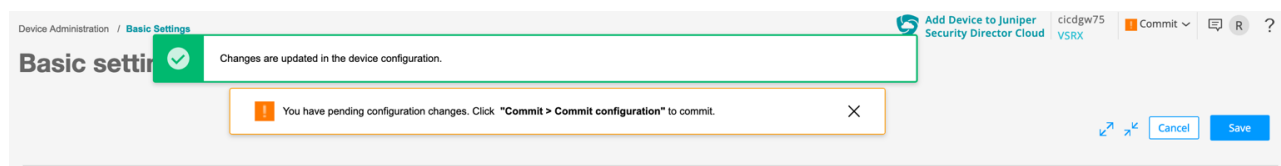
HTTPS certificate ? Device certificate

PKI certificate ? secure-connect-fqdn

HTTPS port ? 8443

Click **Save** to complete the Basic Settings configuration.

Click the highlighted **Commit** button (at the top right of the page next to Feedback Button) to commit the configuration.



When the certificate has been loaded to the vSRX, you can validate the certificate by viewing the certificate information in your browser bar. The steps involved in viewing the certificate information depend on your browser and browser version.

## CONFIGURE DEDICATED HTTPS ACCESS USING J-WEB

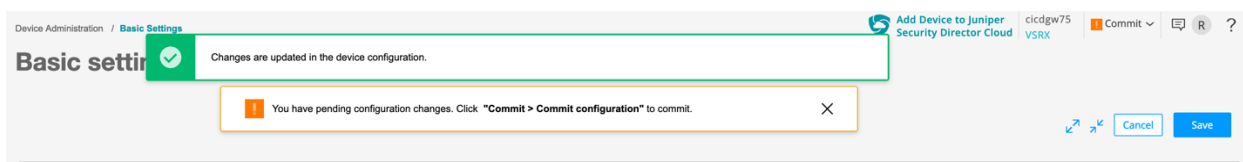
At the Basic Settings page, In the J-Web, Expand the **System Services** and scroll down to where **Management URL** can be defined and type your desired realm.

**NOTE:** For this example, we will be defining our access as “admin”, but network admins may set their preferred name for this path.

Management URL ?

admin

Click **Save** to complete the Basic Settings configuration. Click the highlighted **Commit** button (at the top right of the page next to Feedback Button) to commit the configuration.



Now your J-Web portal can be accessed by appending the word `admin` after the port number.

🔍 `https://<your-ip_address>:8443/admin`

## CONFIGURE JUNIPER SECURE CONNECT WITH LOCAL AUTHENTICATION USING J-WEB

During the following steps, we will be defining a local authentication example for deployment. [Click here](#) for more deployment scenarios.

In the J-Web side pane, navigate to **Network > VPN > IPsec VPN**

At the right corner of the page, select **Create VPN > Remote Access > Juniper Secure Connect** to create the IPsec VPN setting for Juniper Secure Connect.

- Enter the name for the Remote Access Connection (this is, the name that will be displayed on the End Users Realm Name in Juniper Secure Connect application and a description).
- The routing mode is set to **Traffic Selector (Auto Route Insertion)** by default.
- Select the authentication method. For this example, let's select **Pre-shared Key** from the drop-down list.
- Select **Yes** to create the firewall policy automatically using the **Auto-create Firewall Policy** option.
- Click **Remote User** icon to configure the Juniper Secure Connect application settings.

## Remote User ?

Connection mode ?	Manual	▼
SSL VPN ?	<input checked="" type="checkbox"/>	
Biometric authentication ?	<input type="checkbox"/>	
Dead peer detection ?	<input checked="" type="checkbox"/>	
DPD interval ?	60	seconds
DPD threshold ?	5	
Save username ?	<input type="checkbox"/>	
Windows logon ?	<input type="checkbox"/>	
Application bypass ?	<input type="checkbox"/>	
Compliance ?	None	▼

Cancel **OK**

- Click **OK** after reviewing all default options. For more details of the Remote User settings window [click here](#).
- Click **Local Gateway** to configure the Local Gateway settings.

## Local Gateway ?

Note: If required, you can later edit the source NAT (Network > NAT) and firewall rules (Security Policies & Objects > Security Policies).

Gateway is behind NAT ?	<input type="checkbox"/>
External interface* ?	ae1 (163.75.74.98/29) ▼
Connection profile* ?	163.75.74.98
Tunnel interface* ?	st0.0 ▼ Edit Add
Pre-shared key* ?	..... ASCII ▼
User authentication* ?	VPN-POOL ▼ Add
SSL VPN profile* ?	SSL-VPN ▼ Add
Protected networks* ?	22 Available 1 Selected

22 Available		1 Selected	
<input type="checkbox"/>	Name	IP	<input type="checkbox"/>
<input type="checkbox"/>	SL1	10.0.64.0/19	<input type="checkbox"/>
<input type="checkbox"/>	SL2	10.1.128.0/19	<input type="checkbox"/>
<input type="checkbox"/>	SL3	10.0.86.0/24	<input type="checkbox"/>
<input type="checkbox"/>	SL4	10.2.128.0/20	<input type="checkbox"/>
<input type="checkbox"/>	SL5	10.1.176.0/20	<input type="checkbox"/>
<input type="checkbox"/>	—	0.0.0.0/0	<input checked="" type="checkbox"/>

Cancel **OK**

- If you enable **Gateway is behind NAT**, a text box appears. In the text box, enter the NAT IP address. We support only IPv4 addresses. NAT address is the external address.
- Enter an IKE ID in `user@hostname.com` format.
- In the **External Interface** field, select the IP address for the clients to connect. You must enter this same IP address the Gateway Address field in the Juniper Secure Connect Client application.
- If you enable **Gateway is behind NAT**, then the NAT IP address becomes the gateway address.
- From the **Tunnel Interface** drop-down list, select an interface to bind it to the route-based VPN. Alternatively click **Add**. If you click **Add**, the **Create Tunnel Interface** page appears.

Create Tunnel Interface ?

Interface Unit* ?	<input type="text" value="0"/>
Description ?	<input type="text" value="SSL-VPN-INTERFACE"/>
Zone* ?	<input type="text" value="VPN"/> Add
Routing Instance ?	<input type="text" value="default (master)"/>

Cancel

- The next available st0 logical interface number is displayed in the Interface Unit field and you can enter a description for this interface. Select the zone to add this tunnel interface to. If **Auto-create Firewall Policy** (in Create Remote Access page) is set to **Yes**, the firewall policy uses this zone. Click **OK**.
- Enter the preshared key in ASCII format. We do not support hexadecimal format for remote-access VPN.
- From the User Authentication drop-down list, select an existing access profile or click **Add** to create a new access profile. If you click **Add**, the Create Access Profile page appears.

## Create Access Profile

**Name\***

**Address Assignment**  [Create Address Pool](#)

**Authentication**

Local

RADIUS

LDAP

**Authentication Order**

Order 1

Order 2

<input type="checkbox"/>	Username	Secret	XAuth IP address	Group
<input type="checkbox"/>	bob	***	—	—

1 items

Cancel

- Enter the access profile name. From the **Address Assignment** drop-down list, select an address pool or click **Create Address Pool**. If you click **Create Address Pool**, the Create Address Pool page appears.

## Create Address Pool

**General**

**Pool Name\***

**Network Address\***  /

**XAUTH Attributes**

**Primary DNS Server**

**Secondary DNS Server**

**Primary WINS Server**

**Secondary WINS Server**

**Address Ranges**

1 selected

<input checked="" type="checkbox"/>	Name	Lower Limit	High Limit
<input checked="" type="checkbox"/>	vlan-843	10.243.31.55	10.243.31.57

1 items

Cancel

- Enter the details for the local IP pool that is in the VPN policy for the clients. Enter a name for the IP address pool.
- Enter the network address that you use for the address assignment.
- Enter your DNS server address. Enter WINS server details, if required. Now click the add icon (+) to create the address range to assign IP addresses to the clients.
- Enter the name, and the lower and higher limits. After entering the details, click **OK**.
- Select the Local check box to create local authentication user, where all the authentication details are stored on the SRX Series Firewalls. If you click the add icon (+), the Create Local Authentication User window appears.

**Create Local Authentication User**

<b>Username*</b> ⓘ	<input type="text" value="bob"/>
<b>Password*</b> ⓘ	<input type="password" value="*****"/>
<b>XAUTH IP Address</b> ⓘ	<input type="text"/>
<b>Group</b> ⓘ	<input type="text"/>

- Enter a username and password, and then click **OK**. Click **OK** again to complete the access profile configuration.
- From the **SSL VPN Profile** drop-down list, select an existing profile or click **Add** to create a new SSL VPN profile. If you click **Add**, the **Add SSL VPN Profile** page appears.
- On the **Add SSL VPN Profile** page, you can configure the SSL VPN profile. Enter the SSL VPN profile name in the **Name** field, and enable logging using the toggle, if required. In the **SSL Termination Profile** field, select the SSL termination profile from the drop-down list. SSL termination is a process where the SRX Series Firewalls acts as an SSL proxy server and terminates the SSL session from the client. If you want to create a new SSL termination profile, click **Add**. The **Create SSL Termination Profile** page appears.



### Create SSL Termination Profile ?

Name* <span>?</span>	<input type="text" value="SSL_SCC-SSL-Term-Profile"/>
Server Certificate* <span>?</span>	<input type="text" value="secure-connect (RSA)"/> <span>▼</span> <a href="#">Add</a> <a href="#">Import</a>

[Cancel](#) [OK](#)

- Enter the name for the SSL termination profile and select the server certificate that you use for the SSL termination on the SRX Series Firewalls. Click **Add** to add a new server certificate or click **Import** to import the server certificate. The server certificate is a local certificate identifier. Server certificates are used to authenticate the identity of a server. Click **OK**.

The **Source NAT Traffic** option is enabled by default. When **Source NAT Traffic** is enabled, all traffic from the Juniper Secure Connect application is NATed to the selected interface by default. Click the toggle button to disable the **Source NAT Traffic** option. If the option is disabled, you must ensure that you have a route from your network pointing to the SRX Series Firewalls for handling the return traffic correctly.

- Under **Protected Networks**, click add icon (+) to select the networks that the Juniper Secure Connect application can connect to.

**Add Protected Networks** ⓘ

Zone\* ⓘ CUSTOMER-PRIVATE ▼

Global address\* ⓘ

22 Available

<input type="checkbox"/>	Name	IP
<input type="checkbox"/>	SL1	10.0.64.0/19
<input type="checkbox"/>	SL2	10.1.128.0/19
<input type="checkbox"/>	SL3	10.0.86.0/24
<input type="checkbox"/>	SL4	10.2.128.0/20
<input type="checkbox"/>	SL5	10.1.176.0/20

1 Selected

<input checked="" type="checkbox"/>	Name	IP
<input checked="" type="checkbox"/>	any	0.0.0.0/0

By default, any network 0.0.0.0/0 is allowed. If you configure a specific network, split tunneling for Juniper Secure Connect application is enabled. If you retain the default value, you can restrict access to your defined networks by adjusting the firewall policy from the client network.

- Click **OK**, and the selected networks are now in the list of protected networks. Click **OK** to complete the local gateway configuration.

**IKE Settings** and **IPsec Settings** are advanced options. J-Web is already configured with default values for the IKE and IPsec parameters. It is not mandatory to configure these settings.

**Edit Remote Access (Juniper Secure Connect)** ⓘ

Name\* ⓘ SECURE-CONNECT Description ⓘ SSL-VPN Routing mode\* ⓘ Traffic Selector (Auto Route Insertion) Authentication method\* ⓘ Pre-shared Key (Username & Password)

Click icons to configure Remote User and Local gateway

Remote User  
163.75.74.98

Internet

Local Gateway  
External Interface : ae1  
Local Identity : 163.75.74.98

**IKE Settings**

Encryption algorithm ⓘ AES-CBC 256-bit

Authentication algorithm ⓘ SHA 256-bit

Diff group ⓘ Group 19

Lifetime seconds ⓘ 28800

Dead peer detection ⓘ

DPD mode ⓘ Optimized

DPD interval ⓘ 10 seconds

DPD threshold ⓘ 5

**IPsec Settings**

Encryption algorithm ⓘ AES-GCM 256-bit

Perfect forward secrecy ⓘ Group 19

[Advanced Configuration](#)

- Click **Save** to complete the Juniper Secure Connect VPN configuration and associated policy if you have selected the auto policy creation option.
- Click the highlighted **Commit** button (at the top right of the page next to Feedback Button) to commit the configuration.

**You have successfully completed the remote access configuration.**

Download and install Juniper Secure Connect application on the client machine. Launch Juniper Secure Connect and connect to the gateway address of the vSRX. See [Juniper Secure Connect User Guide](#) for more details.

# Preparing the vSRX for Juniper Secure Connect Configuration using CLI

This section is intended to guide users on configuring Juniper Secure Connect on the vSRX in the IBM Cloud Classic Infrastructure using the Command Line Interface (CLI)

Listed below is the step-by-step procedure on how to prepare the vSRX, and helpful links that will answer the most common questions when configuring Juniper Secure Connect.

**NOTE:** All vSRX versions **23.2R2-S1** and under have been provisioned with J-Web access disabled due to security vulnerabilities explained in detail under the following article [JSA72300](#)

Starting in **23.4R1-S2** the above JSA has been fixed and the vSRX will not face vulnerabilities while enabling web access to proceed with setting up Secure Connect as it is required for remote session connection to get established.

Before you proceed with enabling web-management access to the vSRX device make sure you are aware of your code version and the vulnerabilities mentioned above.

Using the command line prompt connected utilizing the root user via SHH or Telnet, execute the following command enable web-management:

```
root@vSRX:~ # cli
root@vSRX > edit
Entering configuration mode
The configuration has been changed but not committed

[edit]
root@vSRX# activate system services web-management

[edit]
root@vSRX# commit and-quit
commit complete
Exiting configuration mode
```

1. [Check Secure Connect License Using CLI](#)
2. [Enable Port Traffic for IKE And ESP Protocols Using CLI](#)
3. [Generate a Device Certificate Using CLI](#)
4. [Enable Device Certificate for Web Management Access Using CLI](#)
5. [Configure Dedicated HTTPS Access Using CLI](#)
6. [Configure Juniper Secure Connect With Local Authentication Using CLI](#)

## CHECK SECURE CONNECT LICENSES USING CLI

This guide was created using a vSRX with version code **23.2R2**.

Using the command line prompt connected utilizing the root user via SSH or Telnet, execute the following command to check the number of licenses installed for (**remote-access-juniper-std**) in your system.

```
root@vSRX:~ # cli
root@vSRX > show system license usage
```

Feature name	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Virtual Appliance	1	1	0	2025-10-01 00:00:00 UTC
remote-access-ipsec-vpn-client	0	2	0	permanent
<b>remote-access-juniper-std</b>	<b>0</b>	<b>502</b>	<b>0</b>	<b>2025-11-01 00:00:00 UTC</b>
VCPU Scale	6	6	0	2025-10-01 00:00:00 UTC

**Note:** All vSRX firewalls will come with two built-in remote-access concurrent connections.

If you need to order additional remote access VPN user licenses for the Juniper vSRX you may purchase either as part of your IBM Cloud Gateway order or by adding to an existing IBM Cloud Juniper Gateway. The licenses support 50 users per license, and you can order up to 10 licenses. They will be automatically added to the existing vSRX instance when the purchase is complete.

To order your new licenses from your IBM Cloud Portal, visit the following link for more details.

<https://cloud.ibm.com/docs/vsrx?topic=vsrx-getting-started#choosing-license>

To check your existing purchased licenses, visit the following link for more details.

<https://cloud.ibm.com/docs/vsrx?topic=vsrx-vsrx-licenses>

## ENABLE PORT TRAFFIC FOR IKE AND ESP PROTOCOLS USING CLI

After configuring the following firewall filters, the specified ports will be allowed to communicate to the external interface of the vSRX, in our case will be the remote users connecting over SSL-VPN.

```
root@vSRX:~ # cli
root@vSRX > edit
Entering configuration mode
The configuration has been changed but not committed

[edit]
root@vSRX# load set terminal
[Type ^D at a new line to end input]

set firewall filter PROTECT-IN term IKE-500 from protocol udp
set firewall filter PROTECT-IN term IKE-500 from port 500
set firewall filter PROTECT-IN term IKE-500 then accept
set firewall filter PROTECT-IN term IKE-4500 from protocol udp
set firewall filter PROTECT-IN term IKE-4500 from port 4500
set firewall filter PROTECT-IN term IKE-4500 then accept
set firewall filter PROTECT-IN term ESP from protocol esp
set firewall filter PROTECT-IN term ESP then log
set firewall filter PROTECT-IN term ESP then accept

load complete

[edit]
root@vSRX# commit and-quit
commit complete
Exiting configuration mode
```

## GENERATE A DEVICE CERTIFICATE USING CLI

Generating a self-signed certificate for Secure connect over HTTPS for users who will be establishing a remote connection to the vSRX.

*For this example, we will be calling our certificate ID “test”, but network admins may set their preferred name for this certificate.*

```
root@vSRX> request security pki generate-key-pair size 2048 certificate-id test
Generated key pair test, key size 2048 bits
root@vSRX> request security pki local-certificate generate-self-signed certificate-id test
subject SN=7a5f9dbe944b domain-name vsrxonibm.net ip-address 163.75.74.98 email
admin@vsrxonibm.net
Self-signed certificate generated and loaded successfully
```

### Preview Certificate

```
root@vSRX> show security pki local-certificate certificate-id test detail
LSYS: root-logical-system
Certificate identifier: test
Certificate version: 3

Serial number:
  hexadecimal: 0x29e0a315e2850557fc2ec1f9eef8062b
  decimal: 55664730090154584788180668314302285355
Issuer:
  Serial number: 7a5f9dbe944b
Subject:
  Serial number: 7a5f9dbe944b
Subject string:
  serialNumber=7a5f9dbe944b
Alternate subject: vsrxonibm.net, "admin@vsrxonibm.net", 163.75.74.98, ipv6 empty
Cert-Chain: Issuer CA Certificate Missing
Validity:
  Not before: 05- 8-2024 20:24 UTC
  Not after: 05- 7-2029 20:24 UTC
Public key algorithm: rsaEncryption(2048 bits)
30:82:01:0a:02:82:01:01:00:c4:f3:21:7c:86:2e:74:69:9a:be:6b
47:4d:77:7d:17:f2:3c:ed:5c:c1:b6:10:79:5a:31:42:e9:e7:48:46
0e:3b:cd:1b:30:46:67:55:2b:d2:aa:3c:f9:f5:2f:59:0c:e3:e9:9d
72:73:68:56:d1:b1:5d:fd:ed:ad:91:05:c5:00:47:3e:b3:a8:04:e1
b2:0d:28:df:a8:d9:85:0b:7f:02:4b:36:fb:22:5e:9a:06:4a:e9:a6
22:96:0c:48:03:bf:91:76:7c:78:25:42:46:0e:fb:3a:5b:d5:05:5f
0c:25:5c:4b:69:2e:c1:6c:62:de:d3:2a:4b:f5:30:3c:d2:76:00:3f
1b:b5:1e:f1:12:67:57:0e:a0:a8:9f:0b:76:e1:2b:9c:3d:3d:25:33
29:dd:c8:0d:b5:3d:90:7d:41:76:04:08:af:52:83:4a:b7:54:4c:67
94:29:74:ea:1c:5f:67:03:0b:59:88:5f:e6:90:cd:6d:46:f6:bb:c3
ab:33:96:80:67:bc:d2:76:8a:82:9b:91:83:84:24:38:ce:33:81:9a
9d:53:92:2a:4b:96:bd:77:44:bf:13:01:b3:07:90:d8:10:55:ab:8d
fd:42:e9:29:64:f8:6b:69:95:13:89:3e:b5:0b:25:6b:e3:15:da:a8
51:f4:5c:1b:e1:02:03:01:00:01
Signature algorithm: sha256WithRSAAEncryption
Fingerprint:
  58:6a:21:ba:c5:ad:46:79:db:9c:3f:19:f4:e9:57:7f:0a:85:3c:fe (sha1)
  ae:c0:1e:21:c8:e3:58:7a:3e:e2:c7:b1:8a:18:17:ff (md5)
```

```
eb:4e:89:1f:a5:fe:dc:0b:70:36:9b:6a:e3:ef:31:b5:17:93:8d:aa:1f:ad:c3:f7:d5:58:3a:c4:83:9d:9b:
10 (sha256)
  Auto-re-enrollment:
    Status: Disabled
    Next trigger time: Timer not started
```



## ENABLE DEVICE CERTIFICATE FOR WEB MANAGEMENT ACCESS USING CLI

After creating a self-signed or loading a signed certificate, you must bind the certificate to the vSRX. To enable the new device certificate for web management, configure the following command:

```
root@vSRX:~ # cli
root@vSRX > edit
Entering configuration mode
The configuration has been changed but not committed

[edit]
root@vSRX# set system services web-management https pki-local-certificate test

[edit]
root@vSRX# commit and-quit
commit complete
Exiting configuration mode
```

When the certificate has been loaded to the vSRX, you can validate the certificate by viewing the certificate information in your browser bar. The steps involved in viewing the certificate information depend on your browser and browser version.

## CONFIGURE DEDICATED HTTPS ACCESS USING CLI

Using the command line prompt connected utilizing the root user via SSH or Telnet, execute the following command enable a dedicated path.

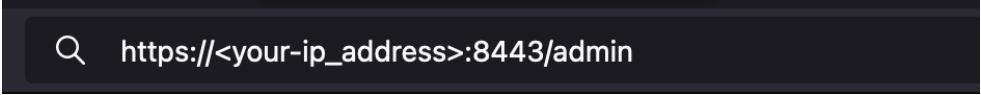
**NOTE:** For this example, we will be defining our access as “admin”, but network admins may set their preferred name for this path.

```
root@vSRX:~ # cli
root@vSRX > edit
Entering configuration mode
The configuration has been changed but not committed

[edit]
root@vSRX# set system services web-management management-url admin

[edit]
root@vSRX# commit and-quit
commit complete
Exiting configuration mode
```

Now your J-Web portal can be accessed by appending the word `admin` after the port number



🔍 `https://<your-ip_address>:8443/admin`

## CONFIGURE JUNIPER SECURE CONNECT WITH LOCAL AUTHENTICATION USING CLI

Using the command line prompt connected utilizing the root user via SHH or Telnet, copy the following set commands and paste them in the terminal after executing the `load set terminal` command and when complete, press **Ctrl + D** keys to append the configuration.

Then followed by `commit and-quit` to load the changes to an active state.

**NOTE:** For this example, we will be defining a local authentication for a remote username named "bob" with password "bob123", IPv4 pool address" 10.243.31.55- 57. Network admins should replace these parameters to match their network.

```

root@vSRX:~ # cli
root@vSRX > edit
Entering configuration mode
The configuration has been changed but not committed

[edit]
root@vSRX# load set terminal
[Type ^D at a new line to end input]

set security ike proposal SECURE-CONNECT description SSL-VPN
set security ike proposal SECURE-CONNECT authentication-method pre-shared-keys
set security ike proposal SECURE-CONNECT dh-group group19
set security ike proposal SECURE-CONNECT authentication-algorithm sha-256
set security ike proposal SECURE-CONNECT encryption-algorithm aes-256-cbc
set security ike proposal SECURE-CONNECT lifetime-seconds 28800
set security ike policy SECURE-CONNECT mode aggressive
set security ike policy SECURE-CONNECT description SSL-VPN
set security ike policy SECURE-CONNECT proposals SECURE-CONNECT
set security ike policy SECURE-CONNECT pre-shared-key ascii-text
"$9$Pq47OIhevLVwgSrwgoJHkpOBISrKM87dbAt"
set security ike gateway SECURE-CONNECT ike-policy SECURE-CONNECT
set security ike gateway SECURE-CONNECT dynamic user-at-hostname "cicd-gw75-
vSRX@163.75.74.98.SECURE-CONNECT"
set security ike gateway SECURE-CONNECT dynamic ike-user-type shared-ike-id
set security ike gateway SECURE-CONNECT dead-peer-detection optimized
set security ike gateway SECURE-CONNECT dead-peer-detection interval 10
set security ike gateway SECURE-CONNECT dead-peer-detection threshold 5
set security ike gateway SECURE-CONNECT external-interface ael
set security ike gateway SECURE-CONNECT local-address 163.75.74.98
set security ike gateway SECURE-CONNECT aaa access-profile VPN-POOL
set security ike gateway SECURE-CONNECT version v1-only
set security ike gateway SECURE-CONNECT tcp-encap-profile SSL-VPN
set security ipsec proposal SECURE-CONNECT description SSL-VPN
set security ipsec proposal SECURE-CONNECT protocol esp
set security ipsec proposal SECURE-CONNECT encryption-algorithm aes-256-gcm
set security ipsec proposal SECURE-CONNECT lifetime-seconds 3600
set security ipsec policy SECURE-CONNECT description SSL-VPN
set security ipsec policy SECURE-CONNECT perfect-forward-secrecy keys group19
set security ipsec policy SECURE-CONNECT proposals SECURE-CONNECT
set security ipsec vpn SECURE-CONNECT bind-interface st0.0
set security ipsec vpn SECURE-CONNECT df-bit clear
set security ipsec vpn SECURE-CONNECT copy-outer-dscp

```

```

set security ipsec vpn SECURE-CONNECT ike gateway SECURE-CONNECT
set security ipsec vpn SECURE-CONNECT ike ipsec-policy SECURE-CONNECT
set security ipsec vpn SECURE-CONNECT traffic-selector ts-1 local-ip 0.0.0.0/0
set security ipsec vpn SECURE-CONNECT traffic-selector ts-1 remote-ip 0.0.0.0/0
set security remote-access profile 163.75.74.98/SECURE-CONNECT description SSL-VPN
set security remote-access profile 163.75.74.98/SECURE-CONNECT ipsec-vpn SECURE-CONNECT
set security remote-access profile 163.75.74.98/SECURE-CONNECT access-profile VPN-POOL
set security remote-access profile 163.75.74.98/SECURE-CONNECT client-config SECURE-CONNECT
set security remote-access client-config SECURE-CONNECT connection-mode manual
set security remote-access client-config SECURE-CONNECT dead-peer-detection interval 60
set security remote-access client-config SECURE-CONNECT dead-peer-detection threshold 5
set security tcp-encap profile SSL-VPN ssl-profile SSL_SCC-SSL-Term-Profile
set access address-assignment pool SSL-POOL family inet network 10.243.31.0/26
set access address-assignment pool SSL-POOL family inet range vlan-pool low 10.243.31.55
set access address-assignment pool SSL-POOL family inet range vlan-pool high 10.243.31.57
set access address-assignment pool SSL-POOL family inet xauth-attributes primary-dns
10.0.80.11/32
set access address-assignment pool SSL-POOL family inet xauth-attributes secondary-dns
8.8.8.8/32
set access profile ACCESS-PROFILE-SC client bob firewall-user password
"$9$3bSf/9pKvL7NblegoGUHk"
set access profile ACCESS-PROFILE-SC address-assignment pool SSL-POOL
set access profile ACCESS-VPN client bob firewall-user password "$9$qPzIRSleWB17-ws4o"
set access profile ACCESS-VPN address-assignment pool SSL-POOL
set access profile VPN-POOL client bob firewall-user password "$9$GQji.tpBREyCAvWx7Vb"
set access profile VPN-POOL address-assignment pool SSL-POOL
set access firewall-authentication web-authentication default-profile VPN-POOL
set security policies from-zone SL-PRIVATE to-zone VPN policy SECURE-CONNECT-1 match source-
address any
set security policies from-zone SL-PRIVATE to-zone VPN policy SECURE-CONNECT-1 match
destination-address any
set security policies from-zone SL-PRIVATE to-zone VPN policy SECURE-CONNECT-1 match
application any
set security policies from-zone SL-PRIVATE to-zone VPN policy SECURE-CONNECT-1 then permit
set security policies from-zone SL-PRIVATE to-zone VPN policy SECURE-CONNECT-1 then log
session-close
set security policies from-zone VPN to-zone SL-PRIVATE policy SECURE-CONNECT-2 match source-
address any
set security policies from-zone VPN to-zone SL-PRIVATE policy SECURE-CONNECT-2 match
destination-address any
set security policies from-zone VPN to-zone SL-PRIVATE policy SECURE-CONNECT-2 match
application any
set security policies from-zone VPN to-zone SL-PRIVATE policy SECURE-CONNECT-2 then permit
set security policies from-zone VPN to-zone SL-PRIVATE policy SECURE-CONNECT-2 then log
session-close
set security zones security-zone VPN interfaces st0.0 host-inbound-traffic system-services
all
set interfaces st0 unit 0 description SSL-VPN-INTERFACE
set interfaces st0 unit 0 family inet
set services ssl termination profile SSL_SCC-SSL-Term-Profile server-certificate test

load complete

[edit]
root@vSRX# commit and-quit
commit complete
Exiting configuration mode

```

## Installing Juniper Secure Connect Client (MacOS)

Following are the steps to install the Juniper Secure Connect on your macOS machine.

Download Juniper Secure Connect Client from juniper.net

<https://support.juniper.net/support/downloads/?p=jsc-mac>

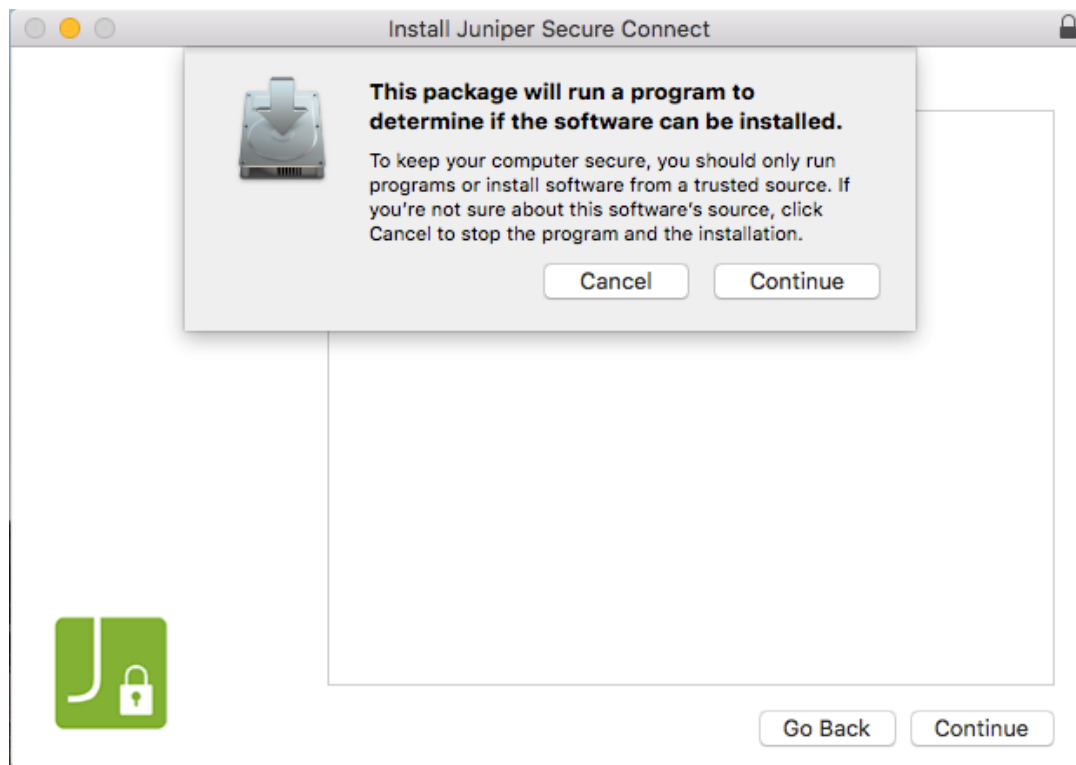
1. Run the Juniper Secure Connect installer (.dmg file). To start the installation, click on Juniper Secure Connect.pkg. See [Figure 1](#).

Figure 1: Juniper Secure Connect Installer



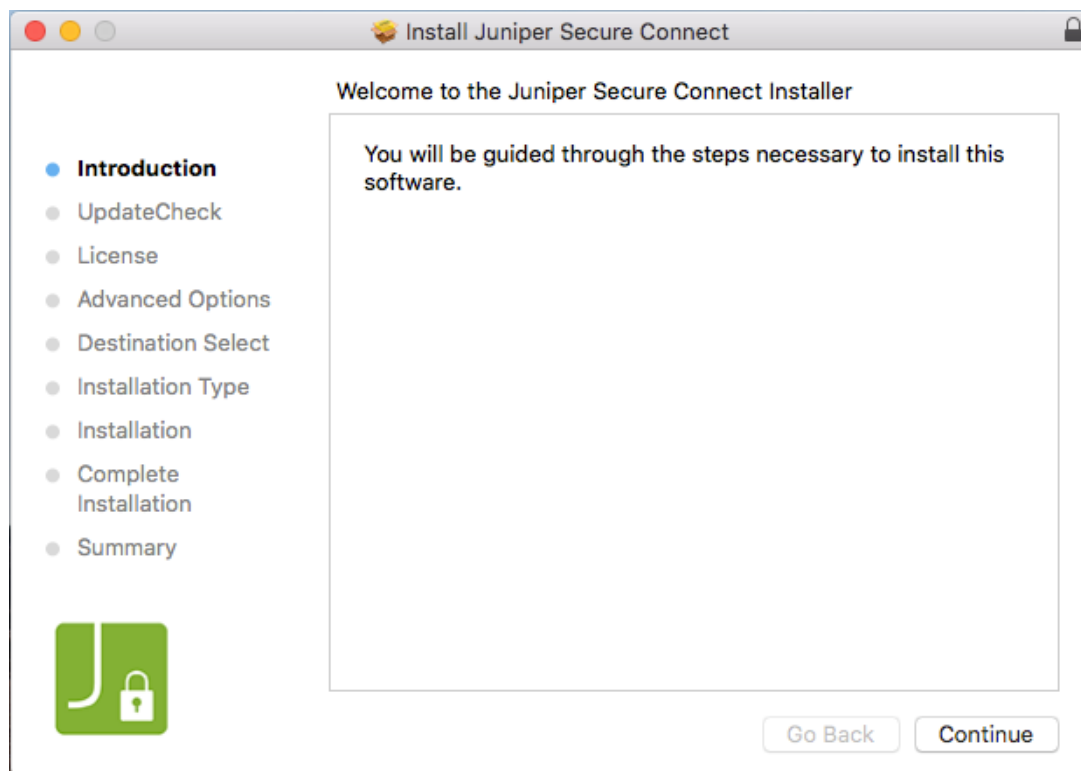
2. A pop-up window appears as shown in [Figure 2](#) with a message that a program will run to check whether Juniper Secure Connect application can be installed. Click **Continue** to run the program.

Figure 2: Trusted Resource Verification Pop-up Window



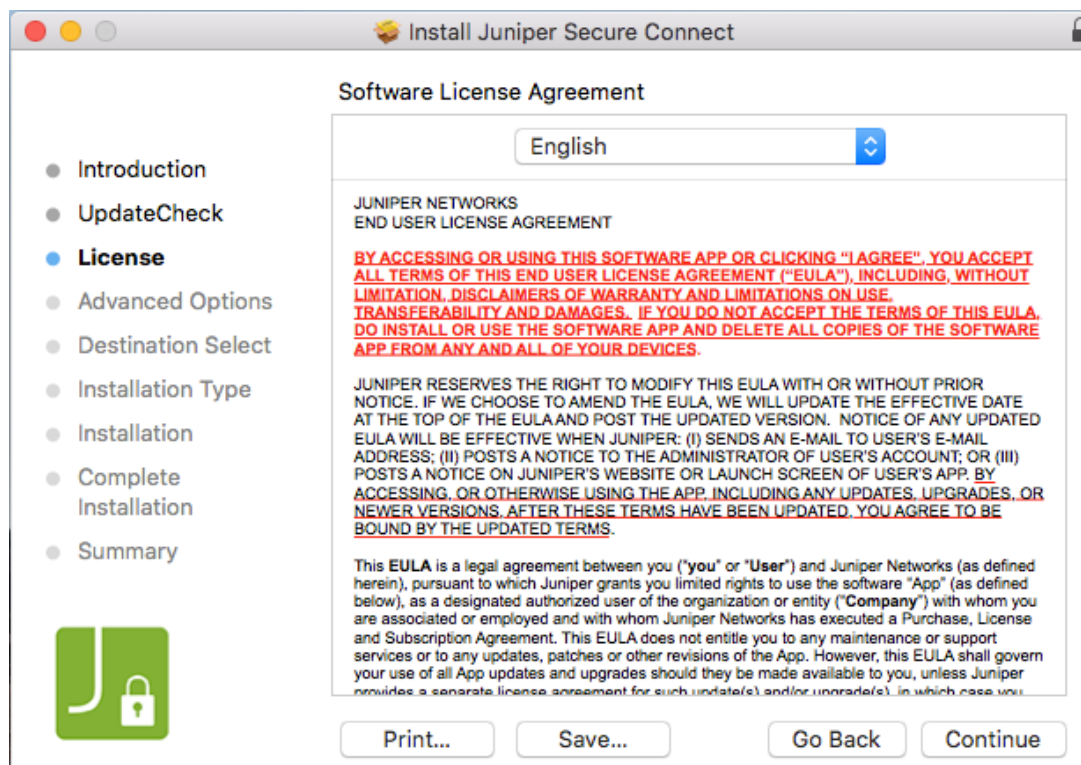
3. Juniper Secure Connect welcome page appears. See [Figure 3](#). Click **Continue**.

Figure 3: Installer Welcome Window



4. Juniper Secure Connect **Software License Agreement** page appears. See [Figure 4](#).

Figure 4: License Agreement Window

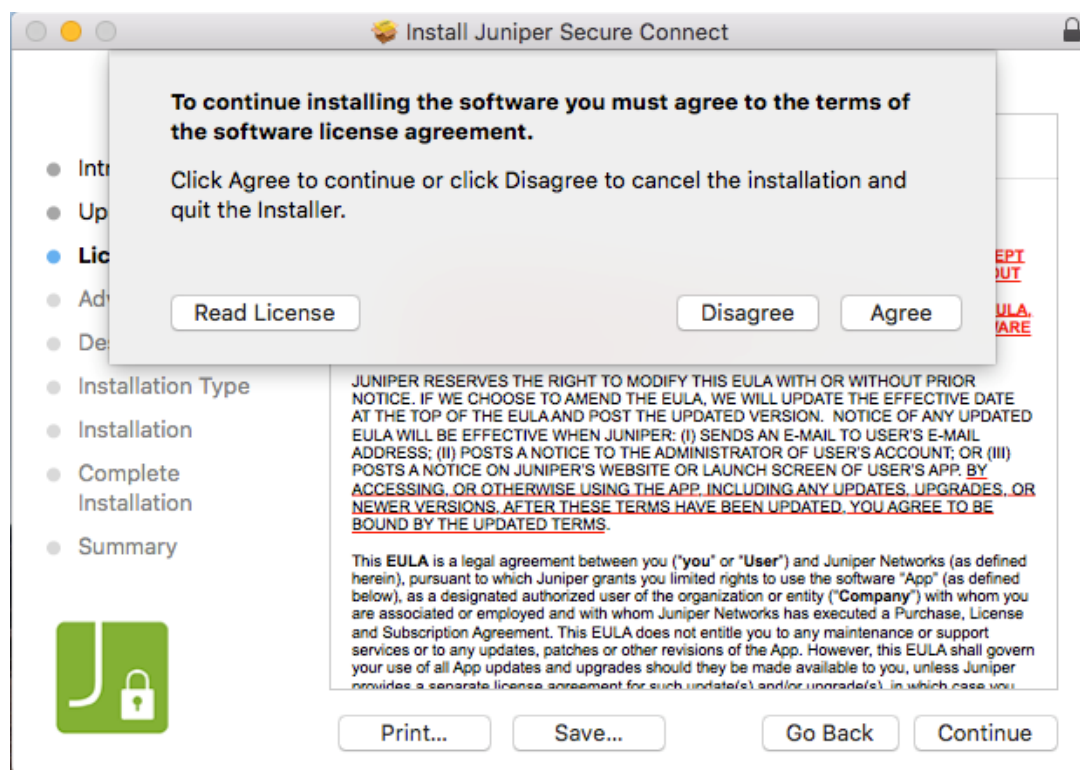


Read the license agreement carefully. If you accept the terms, then select **I accept the terms in the license agreement** check box to accept the license agreement. Click **Continue**.



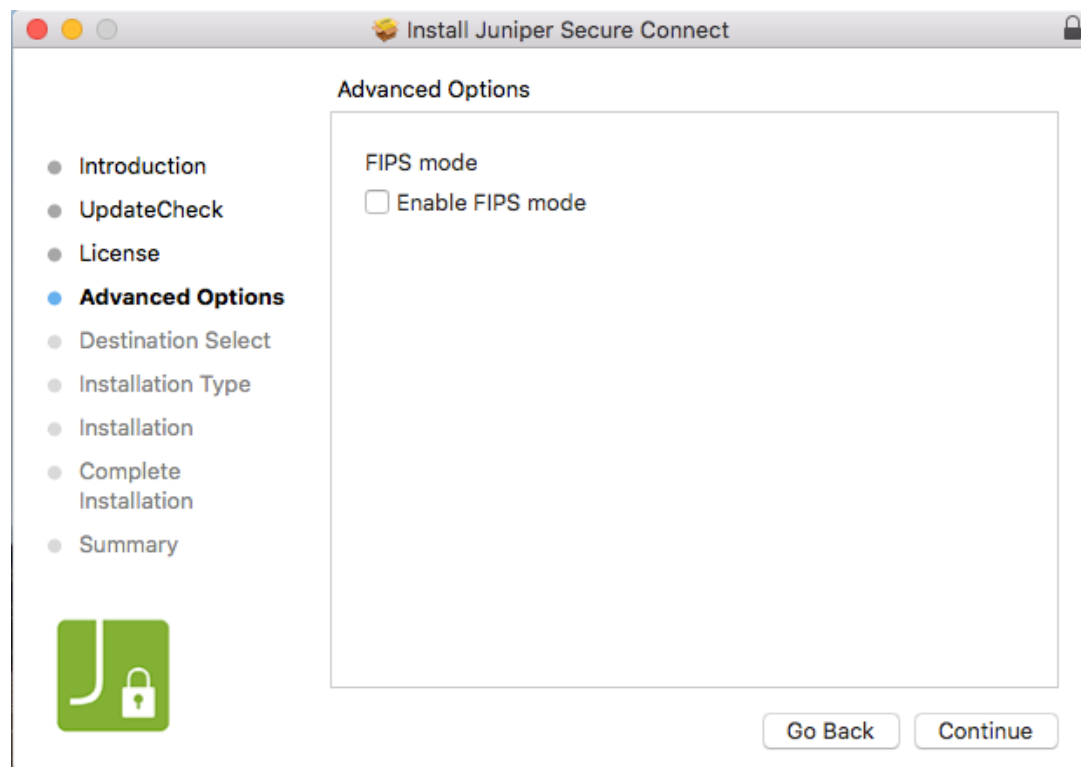
See [Figure 5](#). You can also save or print the software license agreement. To continue the installation, you must agree to the terms of the software license agreement and click **Continue**.

Figure 5: Agree or Cancel License Agreement



5. The **Advanced Options** page appears. See [Figure 6](#). Click **Continue**.

Figure 6: Configure FIPS Mode Option

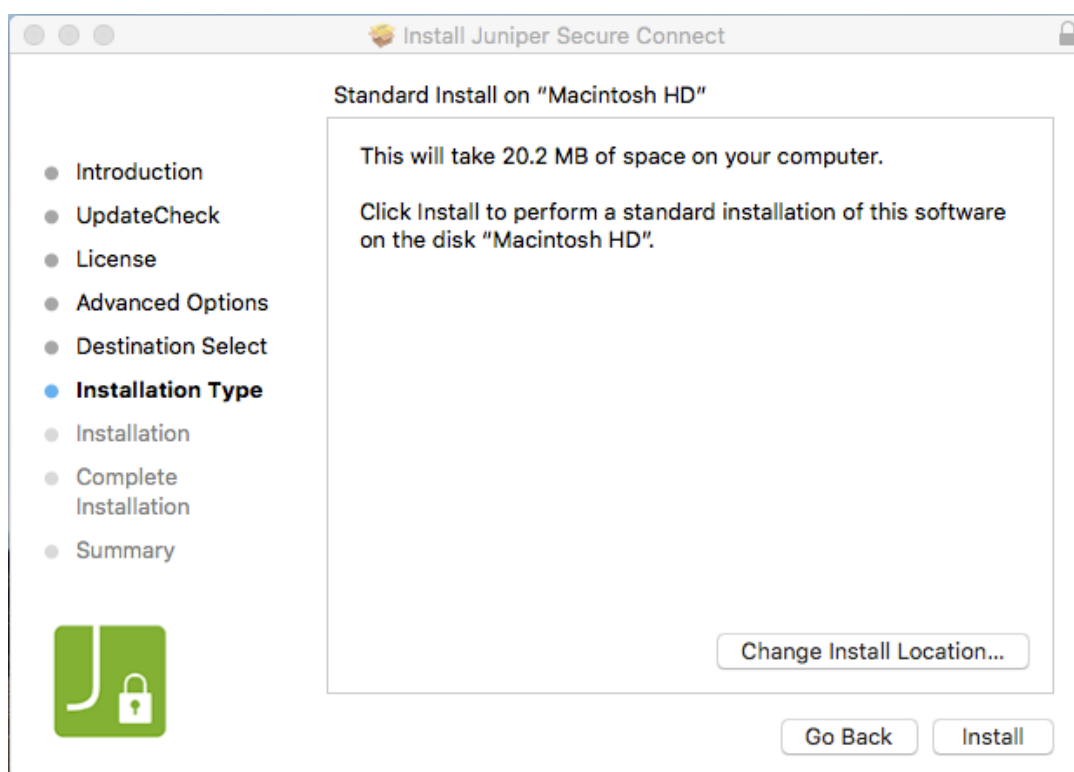


**NOTE:**

The vSRX Series Firewall and the Juniper Secure Connect application are independent FIPS compliant products. For remote access VPN solution on FIPS evaluated vSRX Series Firewall, see [Juniper Secure Connect](#).

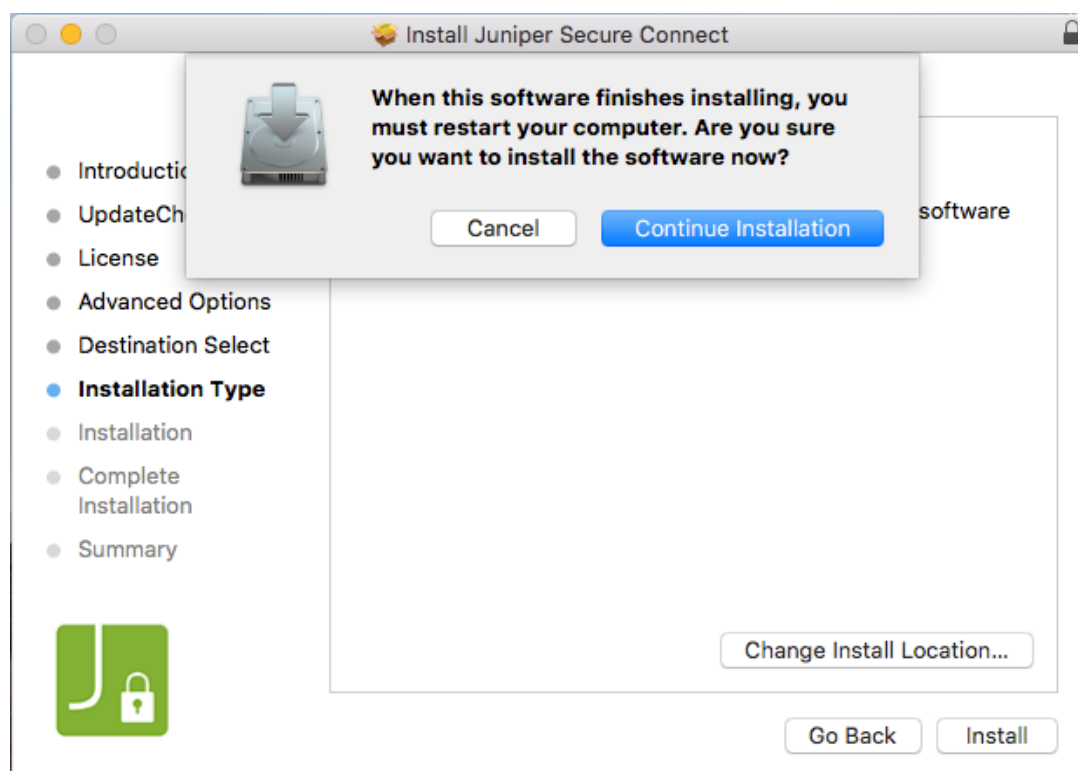
6. In the **Installation Type** page, you can change the installation location if you wish. Verify that you have enough space on your system. Click **Install** to begin the installation process. See [Figure 7](#).

Figure 7: Start Juniper Secure Connect Installation



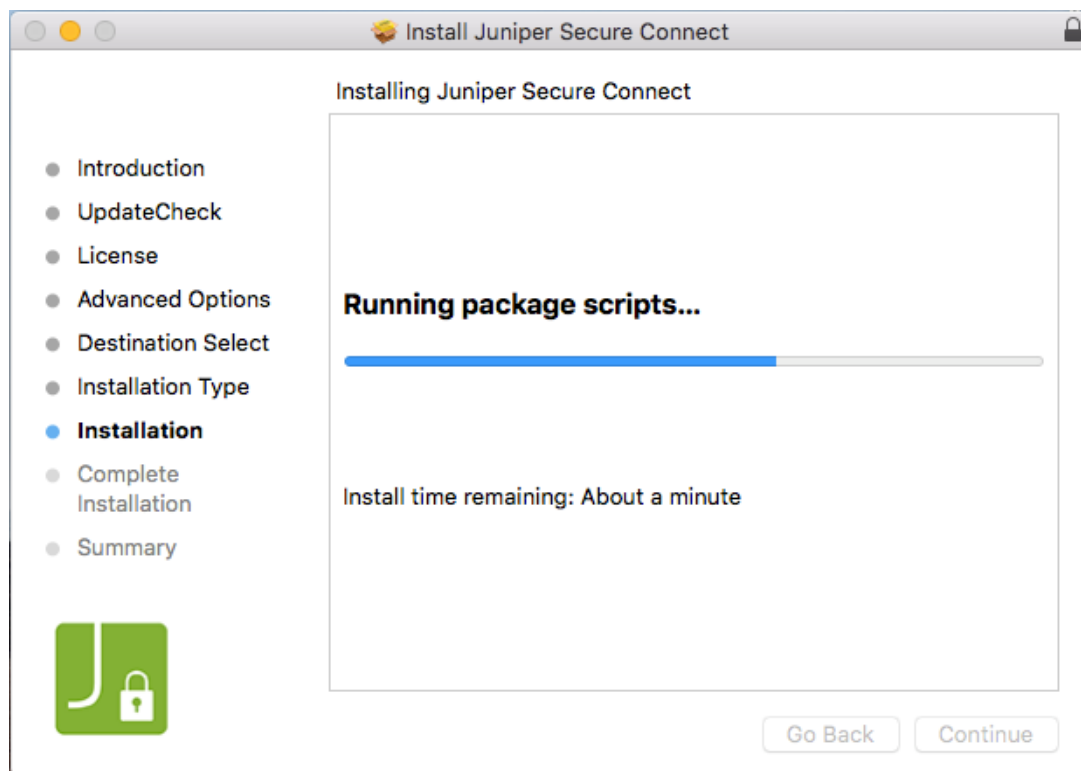
A pop-up message as shown in [Figure 8](#) is displayed to confirm restarting the computer when the installation is complete. Click **Continue Installation** to confirm restart.

Figure 8: Confirm Restart after Installation



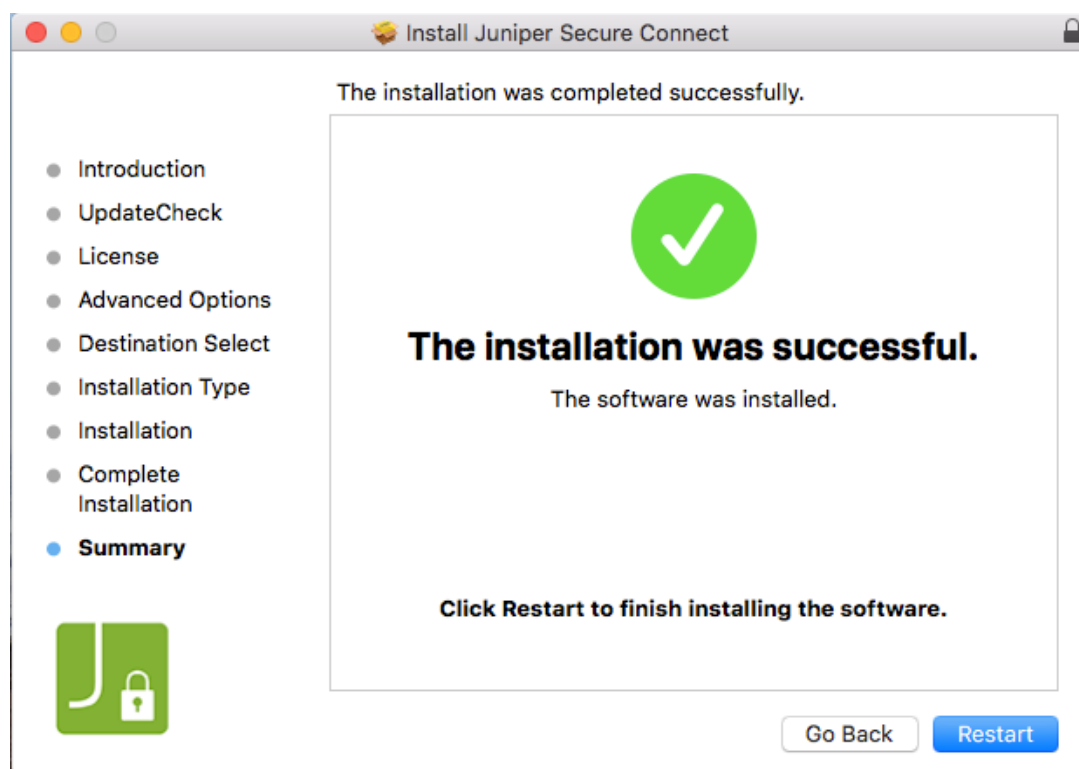
7. Juniper Secure Connect installer runs the package scripts as shown in [Figure 9](#).

Figure 9: Running Juniper Secure Connect Installation Package



[Figure 10](#) shows an example of the Juniper Secure Connect installation window when the installation is successfully completed.

Figure 10: Juniper Secure Connect Installation Completed



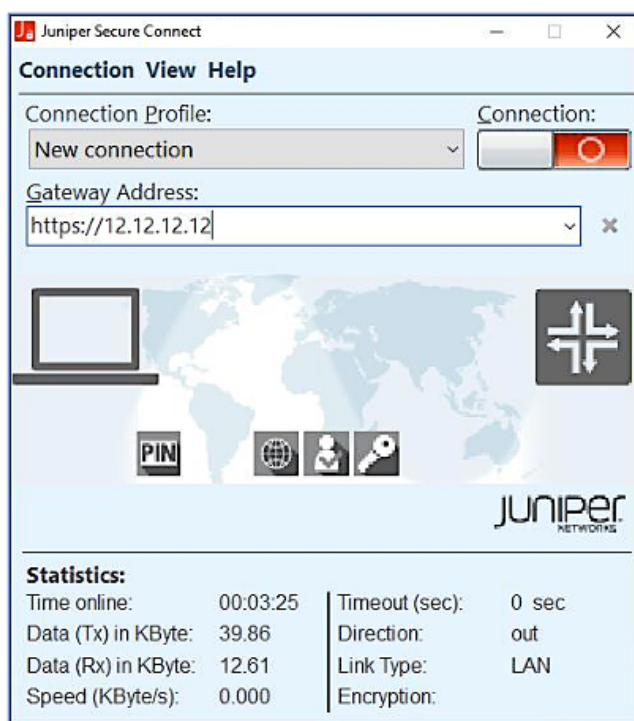
*Congratulations! The Juniper Secure Connect application is successfully installed in your Mac.*

## Establishing a Connection from Juniper Secure Connect Client (MacOS)

8. To use the application, you must first restart your system.
9. You can now launch the Juniper Secure Connect and enter the **Gateway Address URL** to connect with the SRX Series Firewall. Figure 11 shows an example to enter the gateway address to the SRX Series Firewall.

You can also enter a fully qualified domain name (FQDN) in the **Gateway Address URL** to connect with the SRX Series Firewall. For example: <https://vpn.juniper.net>. After entering the gateway address, click the connection toggle button to establish connection manually to the destination system. You can also select **Connection > Connect** from the menu bar to manually establish a VPN connection. When the connection is established successfully, the application window minimizes in the task bar.

Figure 11: Launch Juniper Secure Connect



The following link provides a quick display of additional information about your remote access connection GUI Elements.

<https://www.juniper.net/documentation/us/en/software/secure-connect/secure-connect-user-guide/topics/concept/explore-juniper-secure-connect-macos.html>

## Installing Juniper Secure Connect Client (Windows)

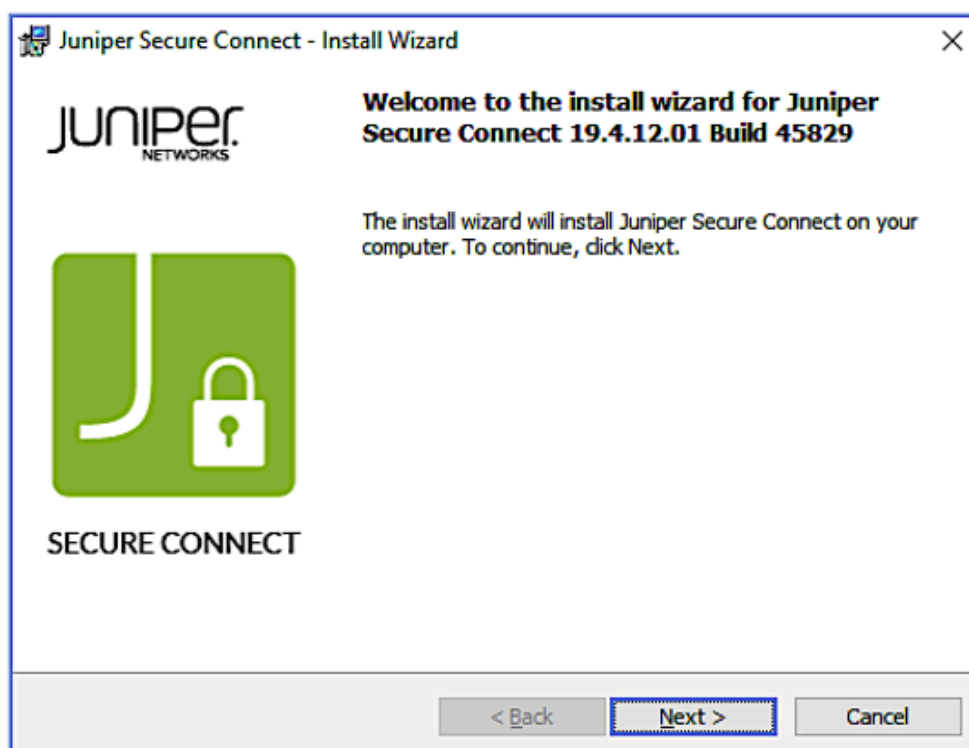
The following are the steps to install the Juniper Secure Connect on your Windows machine.

Download Juniper Secure Connect - Windows

<https://support.juniper.net/support/downloads/?p=jsc-win>

1. Run the Windows installer (.exe) for Juniper Secure Connect . See Figure 1. The version that you see on the figure is dependent on the Juniper Secure Connect application release number.

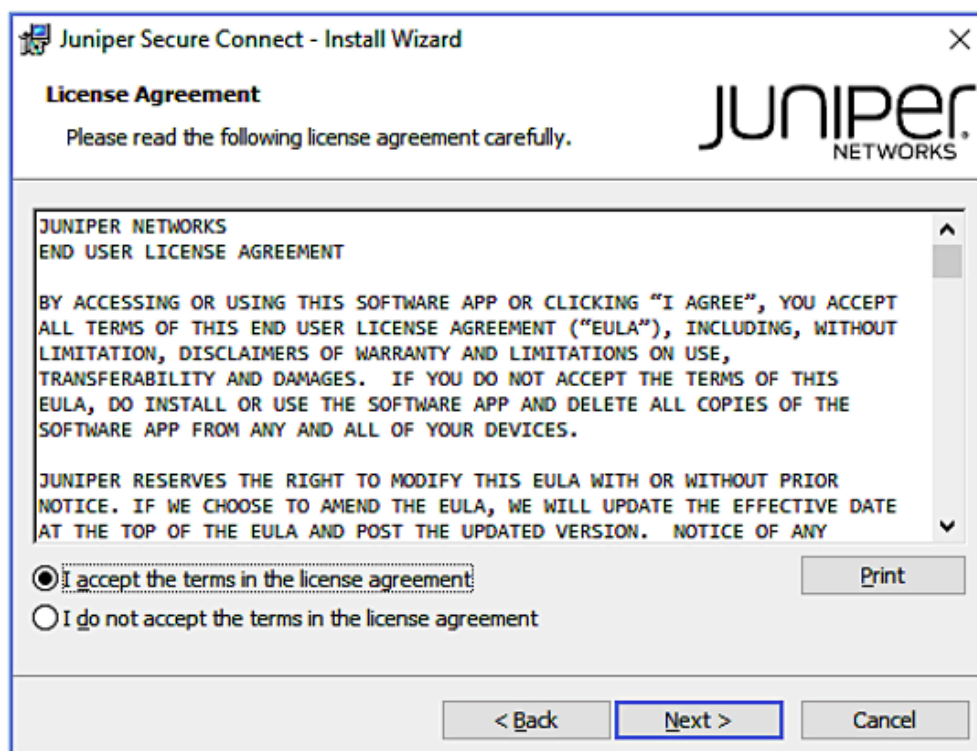
Figure 1: Installer Welcome Window





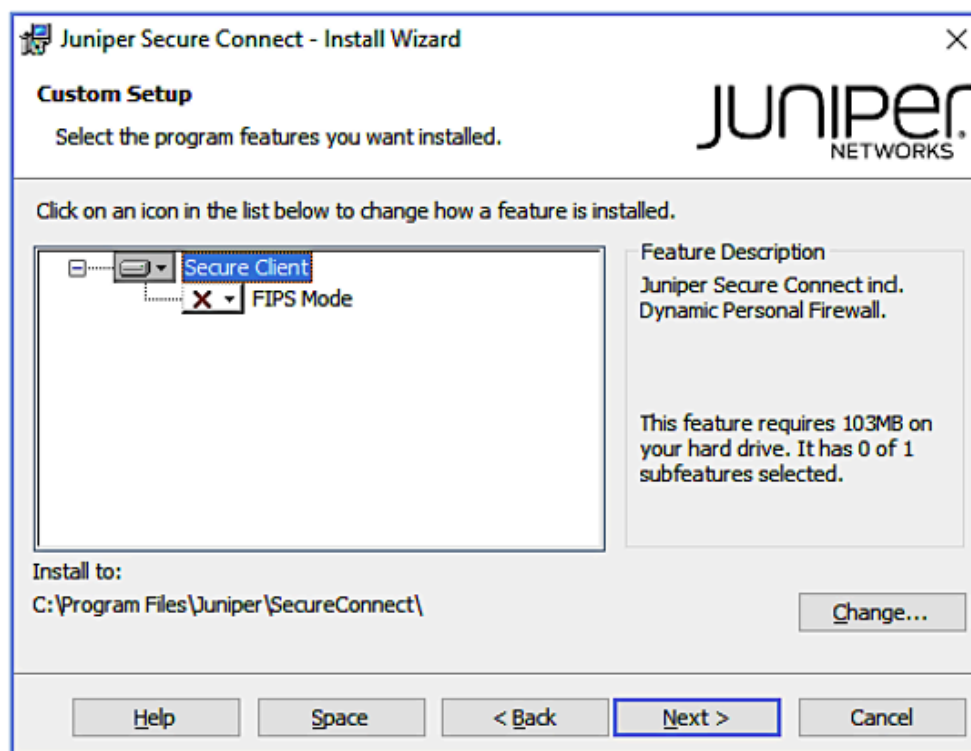
2. Read the license agreement carefully. If you accept the terms, then select **I accept the terms in the license agreement** check box to accept the license agreement. See Figure 2.

Figure 2: License Agreement Window



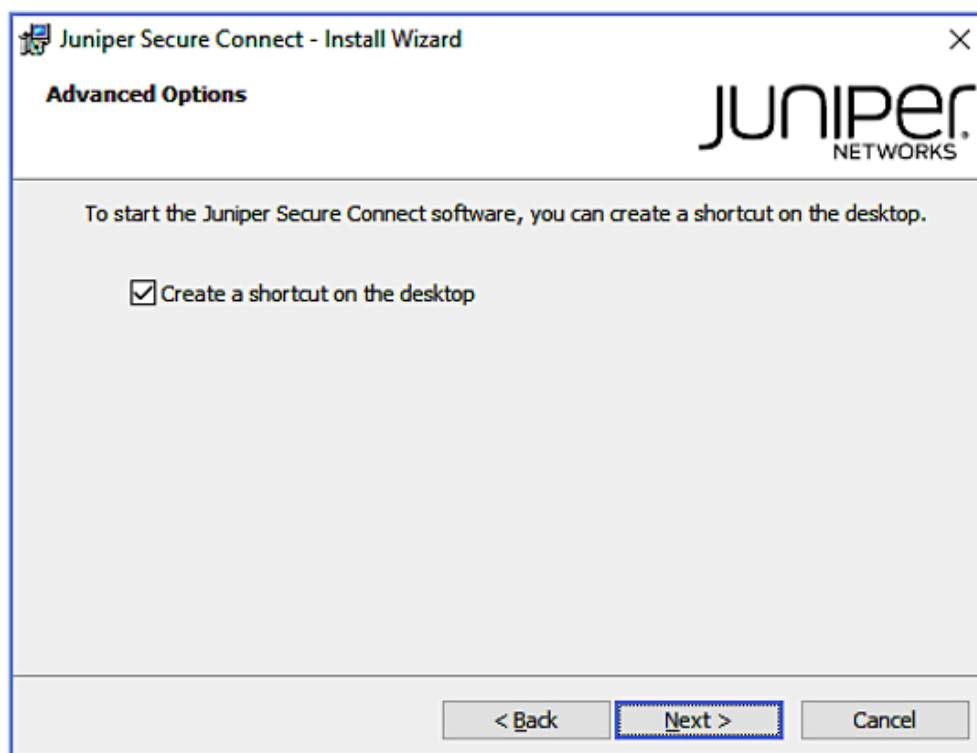
3. Click **Next** and choose the installation folder for downloading the Juniper Secure Connect software. See Figure 3.

Figure 3: Choose Installation Folder



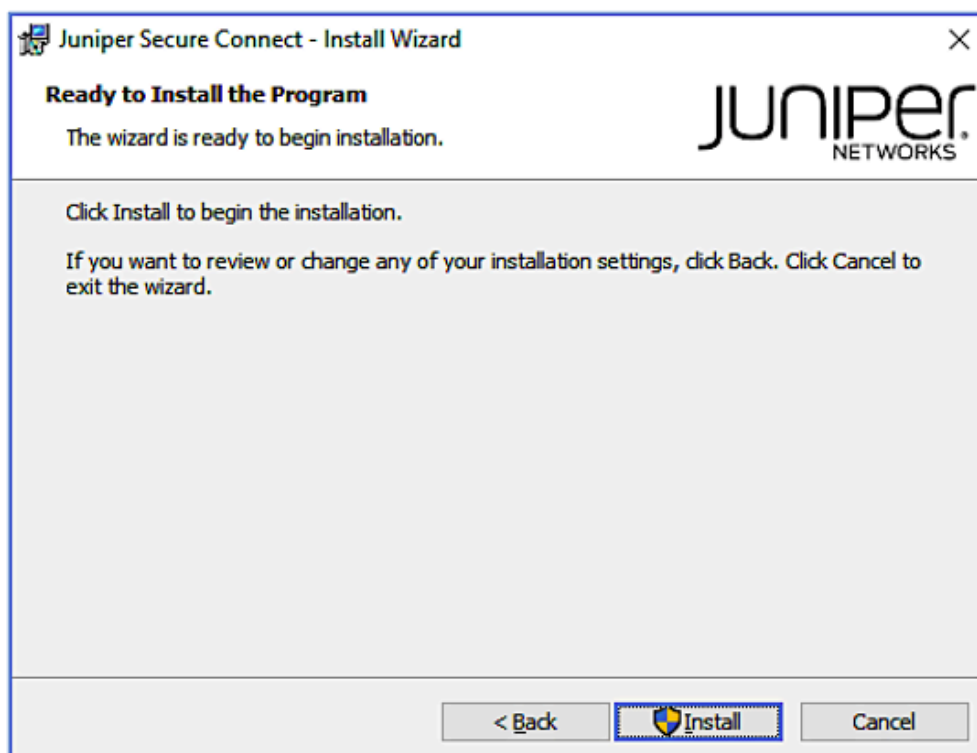
4. Click **Next** and select **Create a shortcut on the desktop** to create a shortcut for Juniper Secure Connect on your desktop. See Figure 4.

Figure 4: Create Juniper Secure Connect Shortcut on Desktop



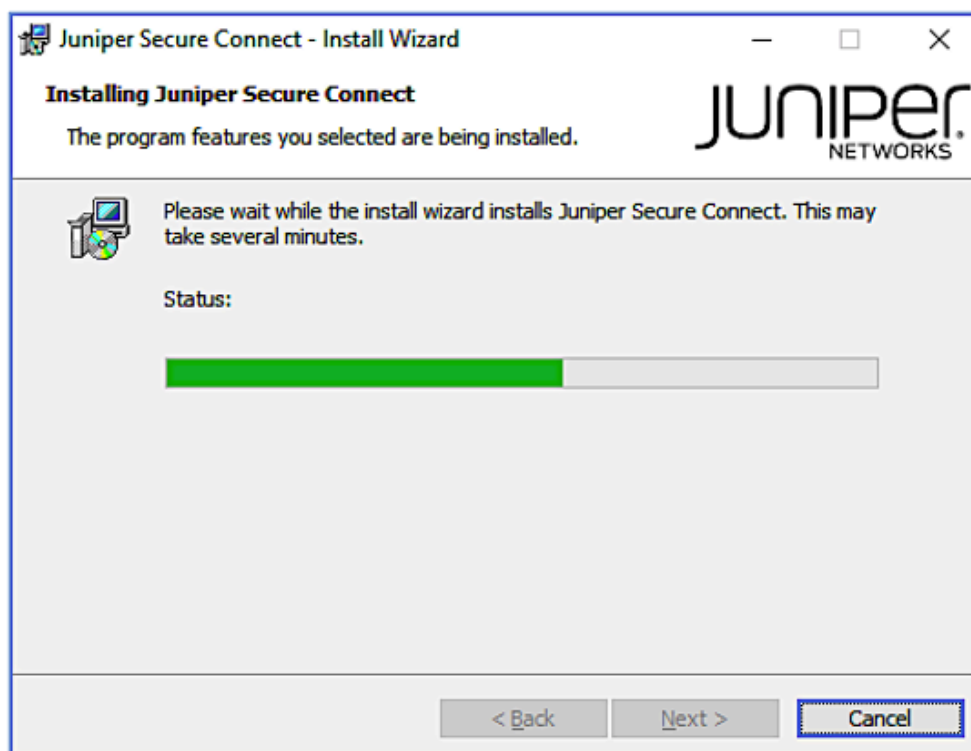
5. Click **Next** and the installation page screen appears. Verify that you have enough space on your system. Click **Install** to begin the installation process. See Figure 5.

Figure 5: Start Juniper Secure Connect Installation



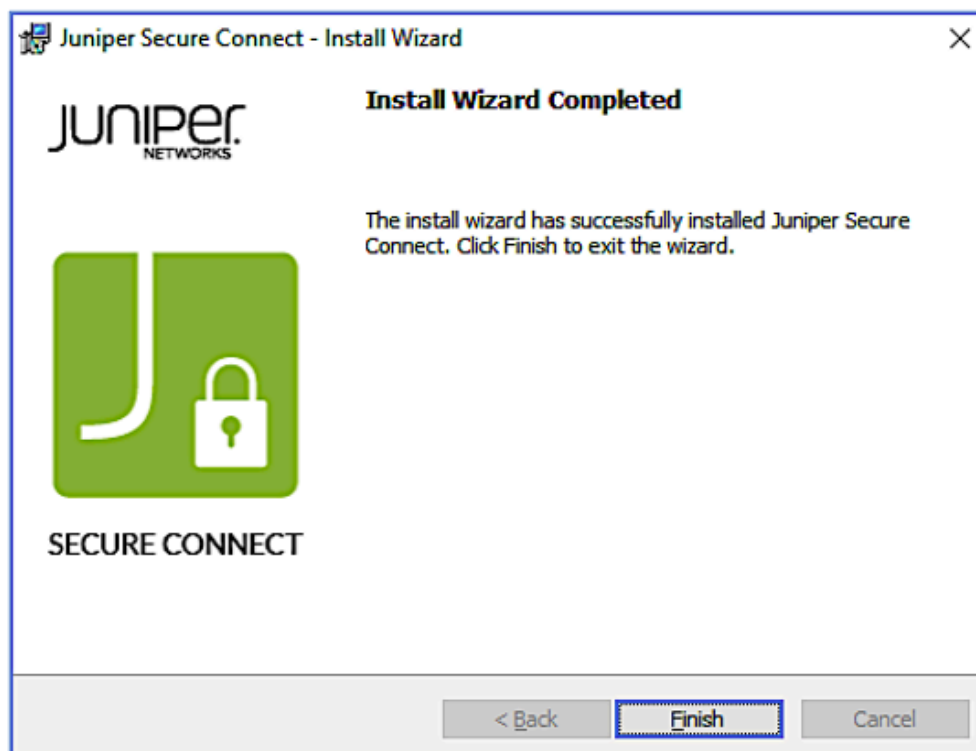
The installation takes several minutes to complete. Please wait till the installation is completed. See Figure 6.

Figure 6: Juniper Secure Connect Installation Status Display



6. Once the installation is complete, click **Finish**. See Figure 7.

Figure 7: Juniper Secure Connect Installation Completed

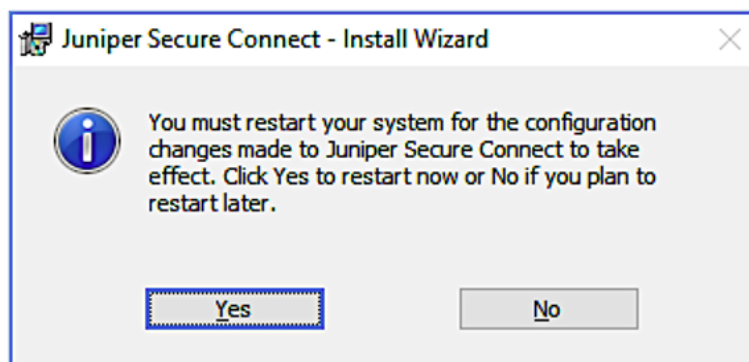


**Congratulations! The Juniper Secure Connect application is successfully installed on your Windows machine.**

## Establishing a Connection from Juniper Secure Connect Client (Windows)

7. To use the application, you must first restart your system. See Figure 8.

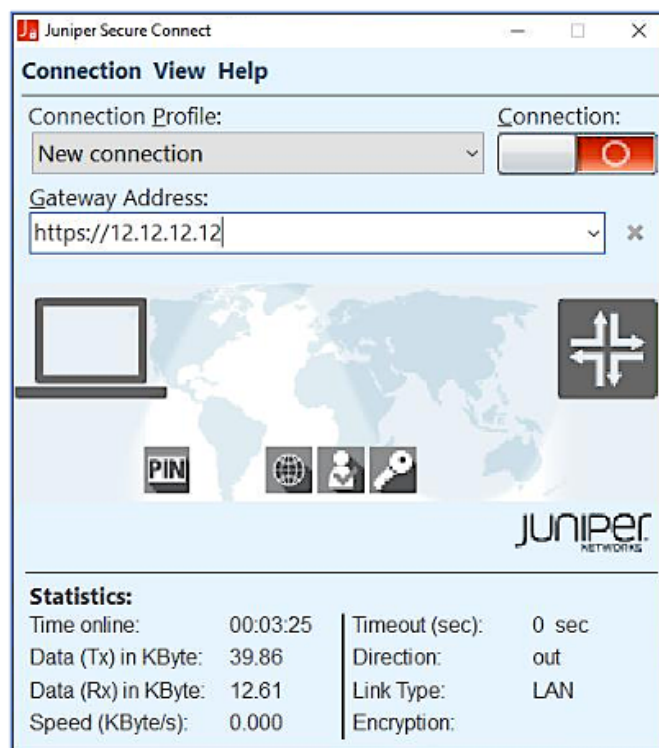
Figure 8: System Restart Notification



8. You can now launch the Juniper Secure Connect and enter the **Gateway Address URL** to connect with the SRX Series Firewall. Figure 9 shows an example to enter the gateway address to the SRX Series Firewall.

You can also enter a fully qualified domain name (FQDN) in the **Gateway Address URL** to connect with the SRX Series Firewall. For example: <https://vpn.juniper.net>. After entering the gateway address, click the connection toggle button to establish connection manually to the destination system. You can also select **Connection > Connect** from the menu bar to manually establish a VPN connection. When the connection is established successfully, the application window minimizes in the task bar.

Figure 9: Launch Juniper Secure Connect



The following link provides a quick display of additional information about your remote access connection GUI Elements.

<https://www.juniper.net/documentation/us/en/software/secure-connect/secure-connect-user-guide/topics/concept/explore-juniper-secure-connect-macos.html>



## Monitoring Remote Sessions on the vSRX

You can use the J-Web interface to monitor the existing remote access VPN connection. To do this, navigate to **Monitor > Network > IPsec VPN** page. [Figure 1](#) shows the sample IPsec VPN page under monitoring menu option.

Figure 1: Monitor IPsec VPN Page

The screenshot shows the J-Web interface for monitoring IPsec VPN sessions. The left sidebar contains navigation options: Network, Interfaces, DHCP-Server Bindings, IPsec VPN (highlighted), Logs, Maps & Charts, Statistics, and Reports. The main content area is titled 'IPsec VPN' and includes a sub-header 'SA = Security Association; TS = Traffic Selector; DPD = Dead Peer Detection; NA = Not Applicable'. Below this, there is a table with the following data:

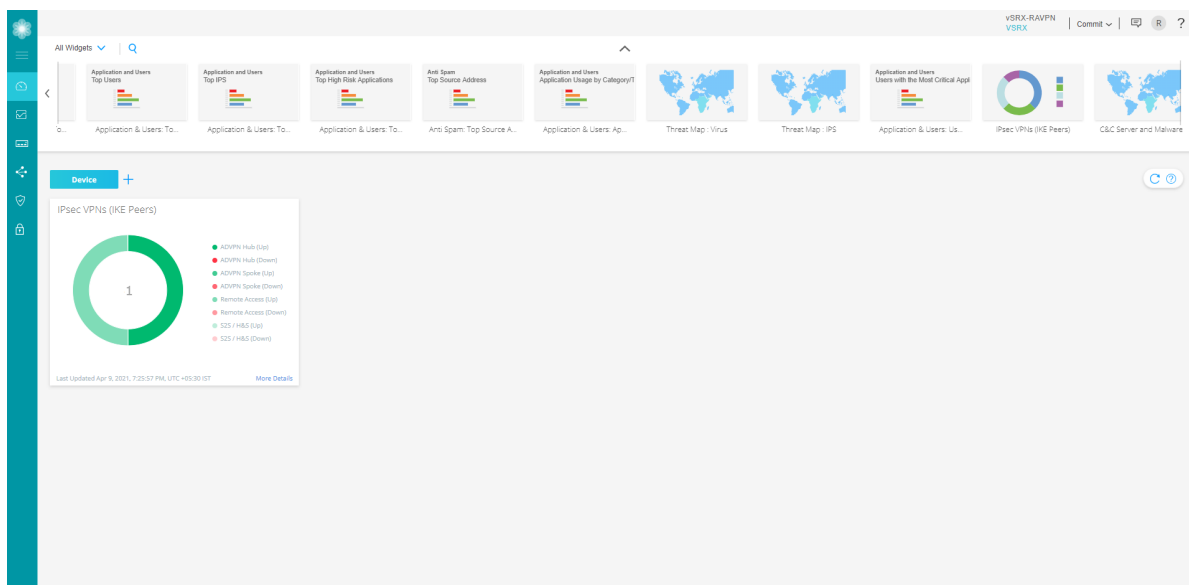
Remote Gateway	IKE Status	Local IP	Remote IP	VPN Name	TS/Proxy-ID Status	IPsec Soft Life	IKE Index	IPsec Index	Topology
<input type="checkbox"/> JUNIPER_SECURE_CONNECT	▲ Up	ge-0/0/1 (55.0.0.1-500)	55.0.0.100:10952	JUNIPER_SECURE_CONNECT	▲ ge002	2140 seconds	1983528	67108970	Remote Access Juniper Se

The **IPsec VPN** page displays IKE/IPsec configuration, Security associations (SA), and IPsec statistics information.

See [Monitor IPsec VPN](#) for more details.

You can also view J-Web Dashboard to get the status and count of IKE peers as shown in [Figure 2](#). Hover over the sections in the widget, to view the IKE peers count with VPN topology type. See [Dashboard Overview](#).

Figure 2: Sample IPsec VPNs (IKE Peers) Dashboard



## Check Junos OS Logs

You must configure syslog to save the syslog file on your device. Currently, J-Web does not support structured logs. Only unstructured logs are supported.

To view the system logs in J-Web interface, navigate to **Device Administration > Operations > Files** as shown below:

Figure 3: Files Page

The screenshot shows the 'Files' page in the J-Web interface. The left sidebar contains navigation options like 'Basic Settings', 'User Management', 'Certificate Management', 'Multi Tenancy', 'License Management', 'ATP Management', 'Operations', 'Files', 'Reboot', 'Snapshot', 'Software Management', 'Configuration Management', 'Alarm Management', 'Tools', and 'Reset Configuration'. The main content area is titled 'Files' and includes a 'Clean Up Files' section with a 'Clean Up Files' button and a list of actions: 'Rotate your log files', 'Delete log files in /var/log that are not currently being written to', 'Delete temporary files in /var/tmp that have not been touched in 2 days', 'Delete all crash files in /var/crash', and 'Delete all old software \*.tgz files in /var/sw/pkg'. Below this is a 'Download and Delete Files' section with a table:

File Type	Directory	Usage
<a href="#">Log Files</a>	/var/log	61M
<a href="#">Temporary Files</a>	/var/tmp	12G
<a href="#">Jailed Temporary Files (install, Log, etc)</a>	/var/jail/tmp	88K
<a href="#">Crash/Corrupt Files</a>	/var/crash	4.0K
<a href="#">Database files</a>	/var/db	8.6M
<a href="#">Jail Log Files</a>	/var/jail/log	13M

At the bottom, there is a 'Delete Backup JUNOS Package' section with a link to delete the old package file. The backup name is shown as '21.21-20210405.0.1029'.

The default logs files and trace options are automatically created under `/var/log` folder.

You can view the stream (traffic or routing engine) logs by navigating to **Monitor > Events > IPsec VPN** page.

## Check Juniper Secure Connect Application Logs

### WINDOWS

Following are the steps to check the Juniper Secure Connect application logs on a Windows device:

1. The log is continuously active in the background, even if the log window is not open. All the relevant Juniper Secure Connect communication events are displayed and saved for one week per operation day, in a log file. The files older than seven online days are automatically deleted.

The log file is generated automatically in the installation directory under the Log folder when the communication process is completed. The log file is named in NCPyymmdd.LOGformat, where yy=year, mm=month, and dd=date. Select **Help > Logbook** to view the log messages in the log book page.

You can change the storage time for log files using the **Extended Log Settings** option. You can open and analyze the log files using a text editor.

Figure 4: Logbook Menu Option

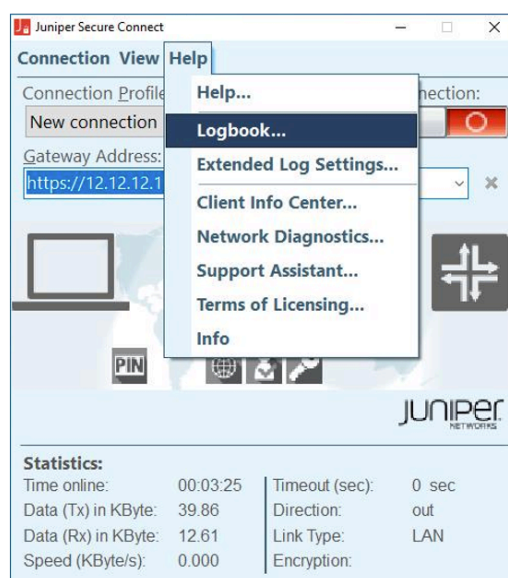
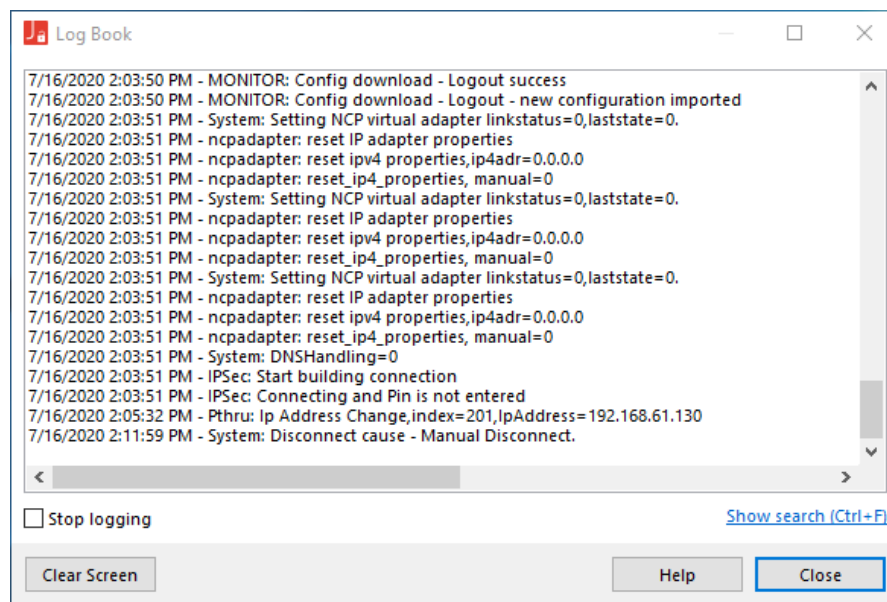
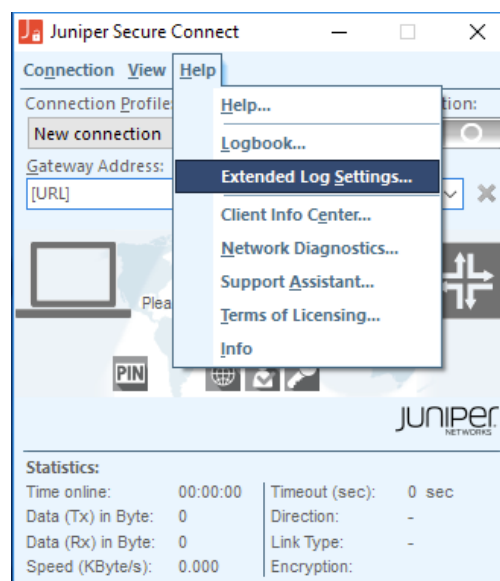


Figure 5: Log Message Display



- From the menu bar, click **Help** and then select **Extended Log Settings**.

Figure 6: Extended Log Settings Menu Option



3. Enable all options by selecting all the check boxes, and then click OK.

Figure 7: Extended Log Settings

**Extended Log Settings**

**Client VPN and Dialing Service**

Enable driver full trace Restart

Maximum log entries retention period:  days

**Client PKI Support**

Enable extended PKI logs (PKI) Restart

Enable extended PKI interface logs (GaCC)

**Applications**

Client Monitor

Client Command line tool

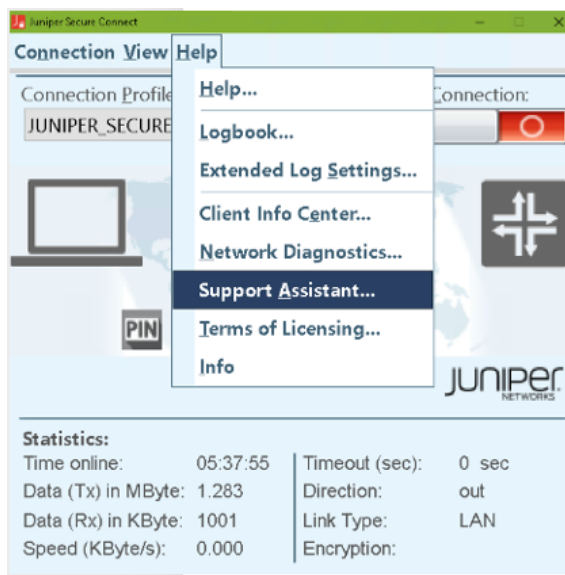
Credential Provider

**More information**

Help OK Cancel

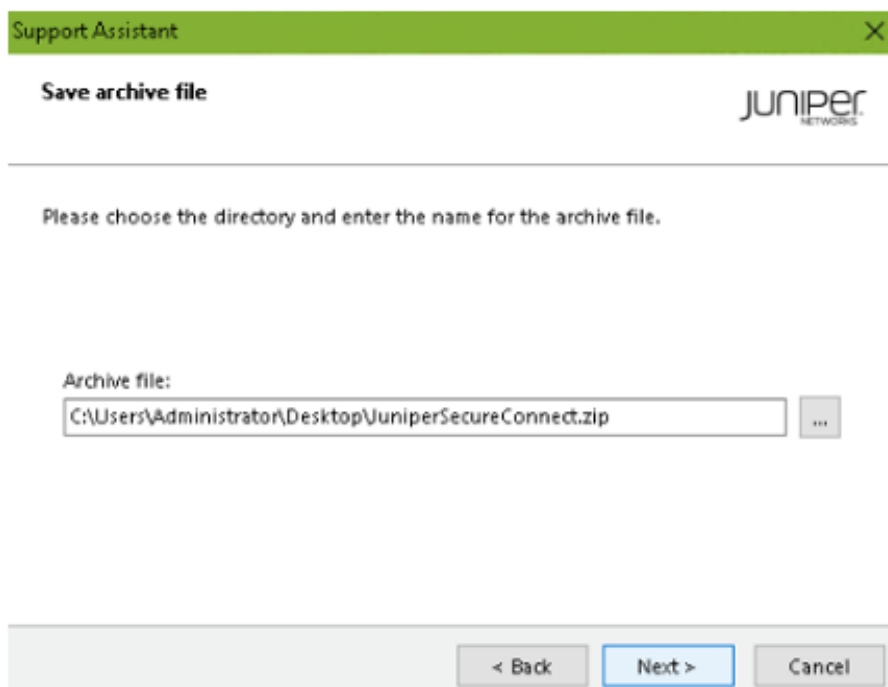
4. Open the logbook and check for any log messages that indicate the problem. If you cannot resolve your issue based upon the log messages, start the Support Assistant by clicking **Help** and then selecting **Support Assistant**. The Support Assistant collects all the required data.

Figure 8: Support Assistant Menu Option



5. Click **Add** to attach any additional files, and then click **Next**. The **Save archive file** page opens.

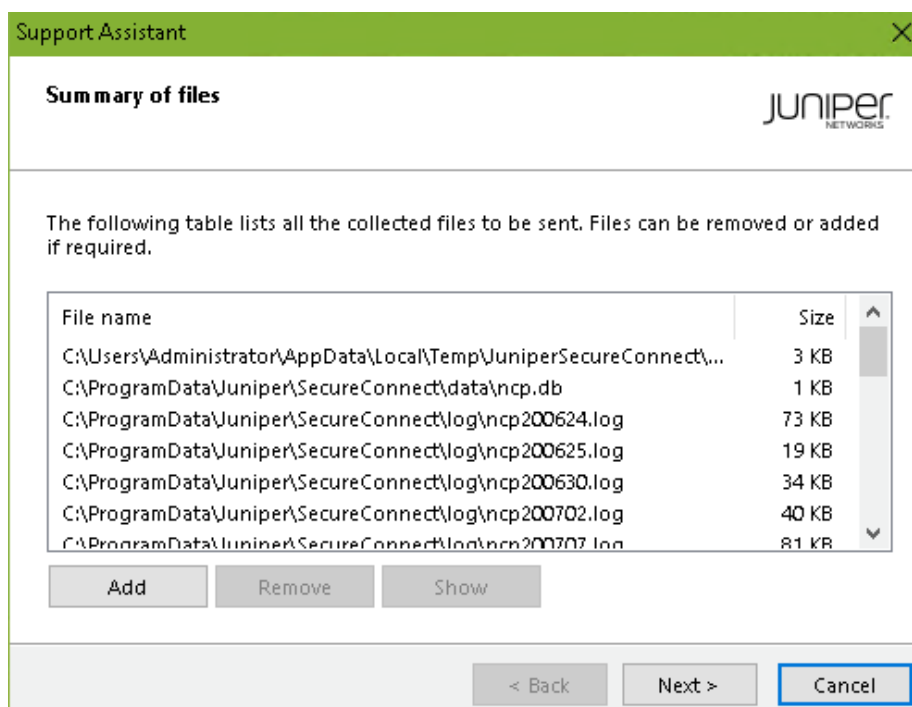
Figure 9: Save Archive File



The screenshot shows a dialog box titled "Support Assistant" with a green header bar. The main title is "Save archive file" and the Juniper Networks logo is in the top right corner. The instruction reads: "Please choose the directory and enter the name for the archive file." Below this, there is a text input field labeled "Archive file:" containing the path "C:\Users\Administrator\Desktop\JuniperSecureConnect.zip" and a browse button "...". At the bottom, there are three buttons: "< Back", "Next >" (highlighted in blue), and "Cancel".



Figure 10: Log Files List



6. Select the **Only create the archive file** option button. Then, click **Next**.

Figure 11: Create Only Archive File

Support Assistant

Create archive

JUNIPER NETWORKS

Should the archive file be sent directly to the support via e-mail or web browser after the creation or only stored?

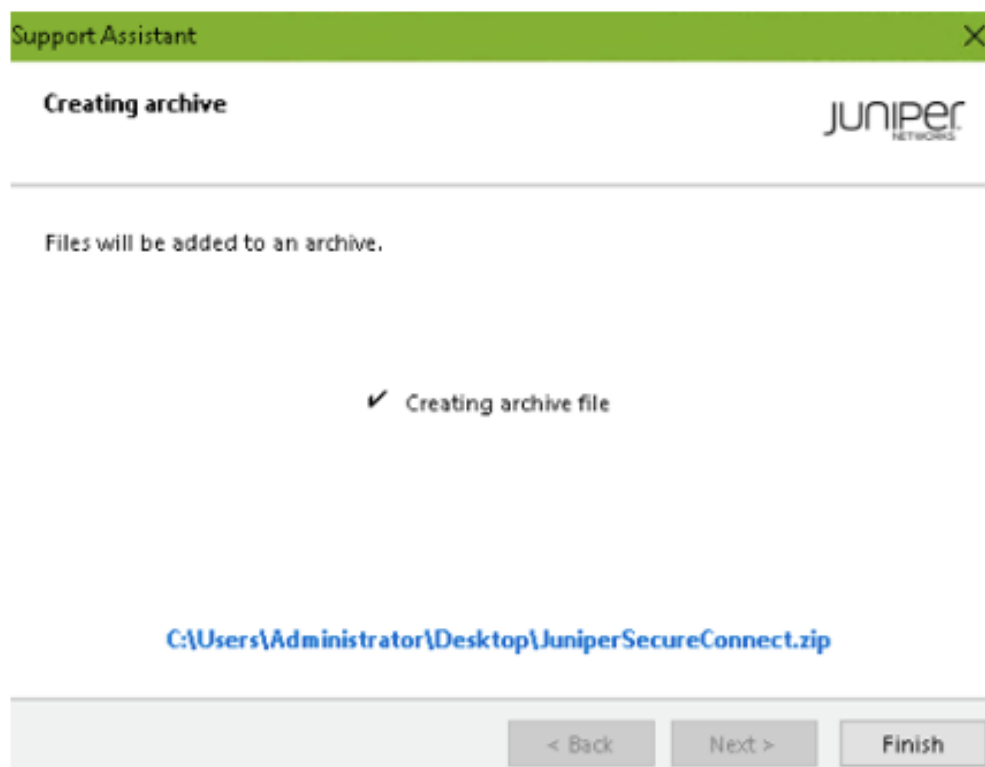
Create archive file and send it to support

Only create the archive file

< Back Next > Cancel

After the archival process is completed, Juniper Secure Connect displays the archived file location.

Figure 12: Successful Creation of Log Files Archival

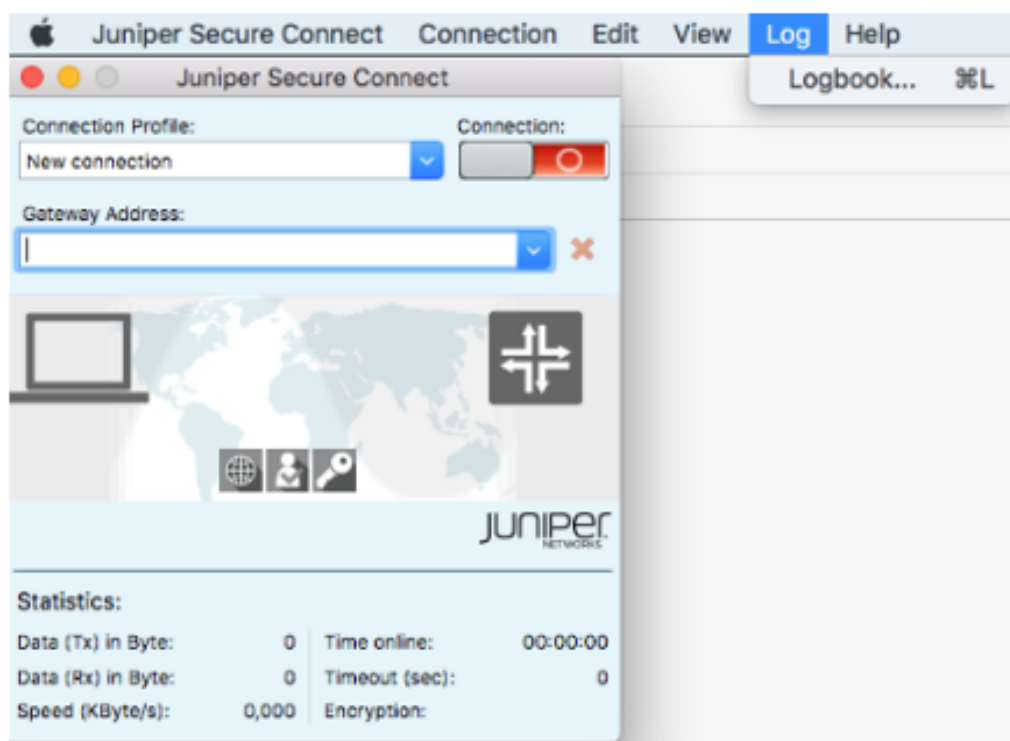


7. Click **Finish**.

## MACOS

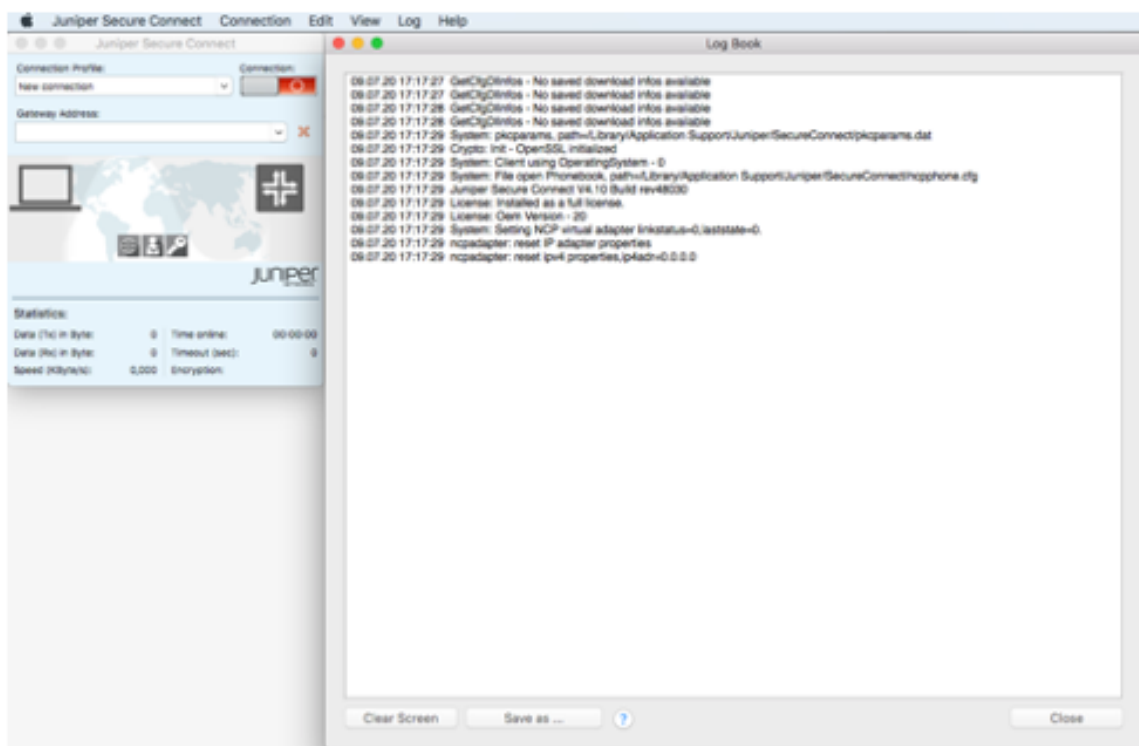
1. Select **Log > Logbook** through the Juniper Secure Connect application menu to open the logbook.

Figure 13: Logbook Menu Option



Check for any log messages that indicate the problem.

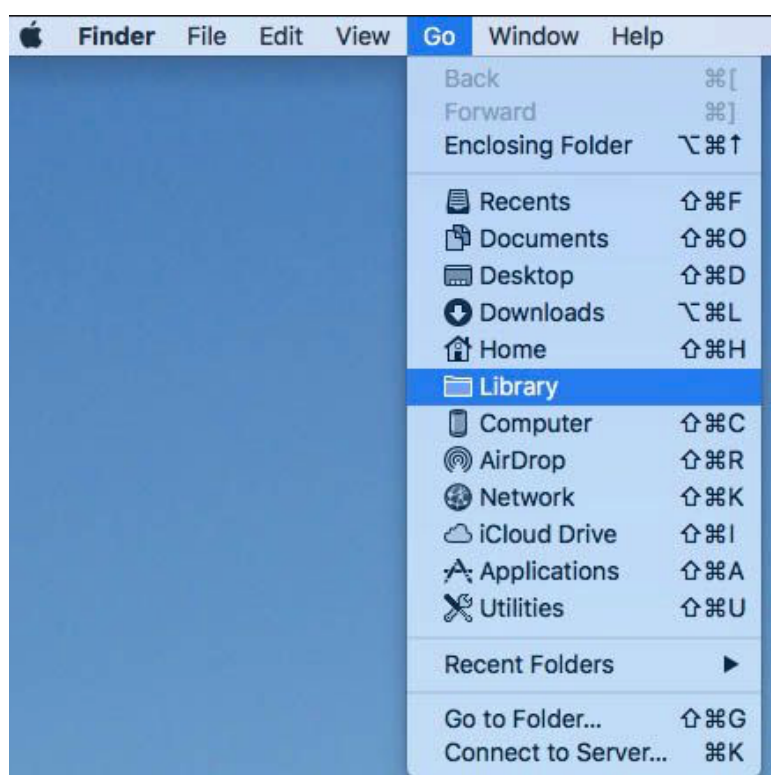
Figure 14: Displaying Log Information



- If you are not able to resolve the issue, save this log message into a file with the `ncpmonlog.txt` filename. Copy the file `ncpphone.cfg` to the same location where you saved the logbook file `/Library/Application Support/Juniper/SecureConnect/ncpphone.cfg`.

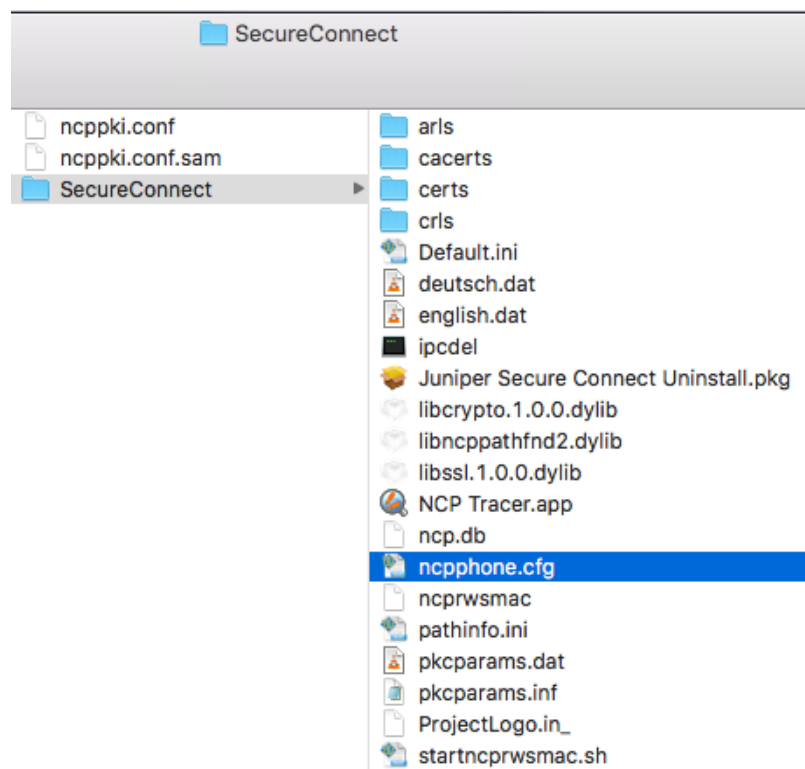
3. To locate the ncpphone.cfg file, open the Finder and select Go in the menu bar and at the same time press down the “Option” key on your keyboard.

Figure 15: Open File Library



The directory location where the Juniper Secure Connect files are saved is displayed.

Figure 16: Juniper Secure Connect Directory



## ANDROID

Following are the steps to check the Juniper Secure Connect application logs on an Android device:

In the Juniper Secure Connect application menu, click the three vertical dots at the top right corner and select **Log** from the menu.

Figure 17: Juniper Secure Connect Application Screen

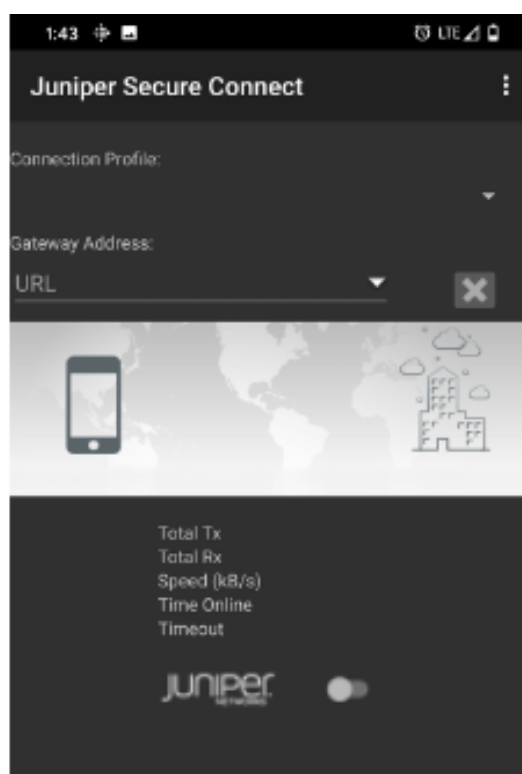
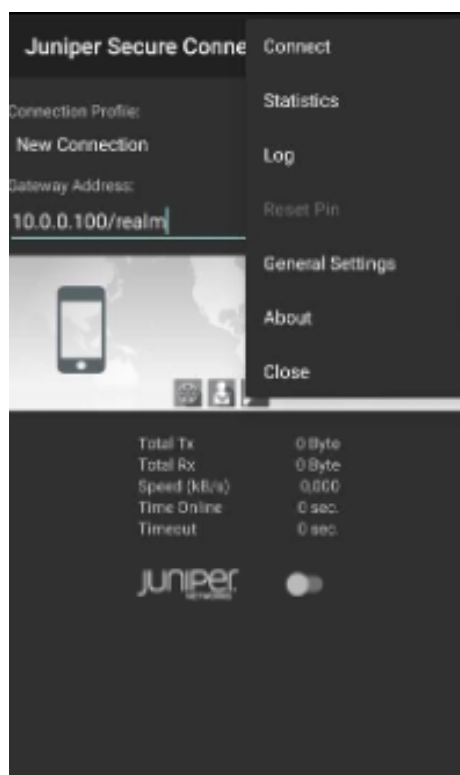




Figure 18: Log Menu Option



The log output window appears, displaying the log messages.

Figure 19: Displaying Log Information



```
Juniper Secure Connect
Log Output:
09.07.20 13:43:39 certificate configuration dropped
(license)
09.07.20 13:43:40 System: pkcparams, path=./
pkcparams.dat
09.07.20 13:43:40 Crypto: Init - OpenSSL initialized
09.07.20 13:43:40 System: Client using
OperatingSystem - 0
09.07.20 13:43:40 System: File open Phonebook,
path=./ncpphone.cfg
09.07.20 13:43:40 Juniper Secure Connect V5.10 Build
rev47994
09.07.20 13:43:40 License: Installed as a full
license.
09.07.20 13:43:40 License: Oem Version - 20
09.07.20 13:43:40 System: Setting NCP virtual adapter
linkstatus=0,laststate=0.
09.07.20 13:43:40 ncpadapter: reset IP adapter
properties
09.07.20 13:43:40 ncpadapter: reset ipv4
properties,ip4adr=0.0.0.0
09.07.20 13:44:08 preference change: show service
notifications
09.07.20 13:44:24 System: Disconnect cause - Manual
Disconnect.
09.07.20 13:44:24 System: Disconnect cause - Manual
Disconnect.
09.07.20 13:44:36 certificate configuration dropped
(license)
09.07.20 13:44:36 System: pkcparams, path=./
pkcparams.dat
09.07.20 13:44:36 Crypto: Init - OpenSSL initialized
09.07.20 13:44:36 System: Client using
OperatingSystem - 0
09.07.20 13:44:36 System: File open Phonebook,
path=./ncpphone.cfg
09.07.20 13:44:36 Juniper Secure Connect V5.10 Build
rev47994
09.07.20 13:44:36 License: Installed as a full
license.
09.07.20 13:44:36 License: Oem Version - 20
09.07.20 13:44:36 System: Setting NCP virtual adapter
linkstatus=0,laststate=0.
```

## IOS

The log is continuously active in the background, even if the log window is closed. All the relevant Juniper Secure Connect communication events are saved in the log file. Navigate to **Diagnostics > Debugging > Error Log** to view the log messages. Click on the export icon right on top of the screen to send the log file through the offered applications.

Figure 20: Log Messages



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## Recent Knowledge Base Articles

[KB79844](#)- [SRX] How to Configure Juniper Secure Connect

[KB80171](#)- [SRX] JSC Doesn't Connect When Framed-IP-Netmask Attribute Isn't Configured on Radius

[KB74733](#)- [JSC] [SRX] How to create two or more Juniper Secure Connect VPNs using the same IP address.

[KB77389](#)- [SRX] Troubleshooting: Juniper Secure Connect Fails to Support More Than 2 Users on VPN Despite Applied License

[KB71326](#)- SRX GUI and Secure connect using same port for connectivity

[KB78412](#)- Maximum JSC connections per vSRX

[KB73506](#)- Unable to login via Juniper Secure Connect

[KB74476](#)- [SRX] Implementing Two-Factor Authentication with External App for SRX Juniper Secure Connect

[KB76547](#)- Certificate for J-Web administrative access

[KB75847](#)- Juniper Secure Connect (JSC) VPN app asks for a PIN to authenticate the user

[KB75282](#)- Which Operating Systems Support Juniper Secure Connect?

[KB73398](#)- Multi Factor Authentication with Juniper secure connect.

[KB80402](#)- JSC tunnel establishment works but drops when using HTTPS

[KB80764](#)- [SRX] How to Save Username and Password on Juniper Secure Connect Client

[KB79204](#)- vSRX not stacking remote-access-ipsec-vpn-client licenses.

[KB80267](#)- android login to jsc does not show all fields

[KB72633](#)- How to enable Split Tunnelling in Juniper Secure Connect

[KB74733](#) - How to create two or more Juniper Secure Connect VPNs using the same IP address.

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## Helpful Links

Juniper Secure Connect Official Documentation

<https://www.juniper.net/documentation/product/us/en/juniper-secure-connect/>

Get Yourself Familiar with Juniper Secure Connect Wizard on J-Web

<https://www.juniper.net/documentation/us/en/software/secure-connect/secure-connect-administrator-guide/topics/topic-map/secure-connect-getting-started.html#id-get-yourself-familiar-with-juniper-secure-connect-wizard-on-jweb>

Juniper Secure Connect User Guide

<https://www.juniper.net/documentation/us/en/software/secure-connect/secure-connect-user-guide/index.html>

Juniper Secure Connect Administrator Guide

<https://www.juniper.net/documentation/us/en/software/secure-connect/secure-connect-administrator-guide/index.html>

Video Tutorial on how to configure Juniper Secure Connect using J-WEB

<https://www.youtube.com/watch?v=RsswMJcTDSg>

Juniper Secure Connect Administrator Guide

<https://www.juniper.net/documentation/us/en/software/secure-connect/secure-connect-administrator-guide/topics/topic-map/overview.html>

Data Sheet for Juniper Secure Connect

<https://www.juniper.net/content/dam/www/assets/datasheets/us/en/security/juniper-secure-connect-datasheet.pdf>