

Quick Start

SSR120

IN THIS GUIDE

- Step 1: Begin | 1
- Step 2: Up and Running | 4
- Step 3: Keep Going | 16

Step 1: Begin

IN THIS SECTION

- Meet the SSR120 | 2
- Onboarding the SSR120 | 2
- Onboard the SSR120 Using the Mist AI Mobile App | 3
- Onboard the SSR120 Using a Web Browser | 3

This guide walks you through the simple steps to get a new cloud-ready Juniper Networks® SSR120 router up and running in the Juniper Mist™ cloud portal. You can onboard a single device using your mobile phone, or one or more devices using your computer. Once onboarded, we'll walk you through the steps to create a basic configuration.

You'll need your Juniper Mist WAN Assurance subscription and your login credentials for the Juniper Mist portal.

NOTE: Before you begin, you must set up your organization and sites and activate your subscriptions. For more information, see [Create a Mist Account and Organization](#).

Meet the SSR120

The Juniper Networks SSR120 network appliance is part of the Juniper® Session Smart™ Routing portfolio. The SSR120 features four 1 GbE ports and two 1 GbE RJ-45/SFP combo ports.

The SSR120 runs the FIPS 140-2 Level 1 compliant Juniper® Session Smart™ Routing (SSR) software, which provides secure and resilient WAN connectivity.

The SSR120 is available in models with or without LTE support.



Onboarding the SSR120

The SSR120 comes ready to install and manage using the [Juniper Mist™ Cloud portal](#).

You can onboard one or more routers using your computer, or a single router using your mobile phone.

To onboard your SSR120 using your mobile phone, see ["Onboard the SSR120 using the Mist AI Mobile App" on page 3](#).

To manually onboard your SSR120, see ["Onboard the SSR120 using a Web Browser" on page 3](#).

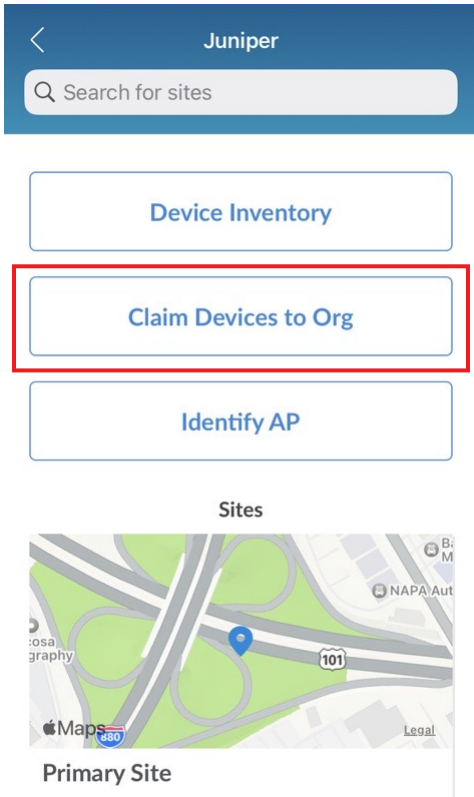
To perform either onboarding process, you will need to locate the SSR120 claim code label on the rear panel of your device.



Onboard the SSR120 Using the Mist AI Mobile App

From your mobile phone:

1. Download and install the Mist AI app from the Google [Play Store](#) or Apple [App Store](#).
2. Open the Mist AI app and log in using your account credentials. If you do not have an account, see [Create a Mist Account and Organization](#) for details about creating one.
3. Select your organization.
4. Tap **Claim Devices to Org** and focus the camera on the QR code on the claim code label. The app automatically claims the device and adds it into your organization's inventory.



5. On the Organization screen, tap **Device Inventory** → **Routers** → **Unassigned**.

Review the MAC address.

Onboarding Complete!

Fantastic, the SSR120 is in your inventory! To provision the SSR120, see "[Step 2: Up and Running](#)" on page 4 and continue with Add the Network.

Onboard the SSR120 Using a Web Browser

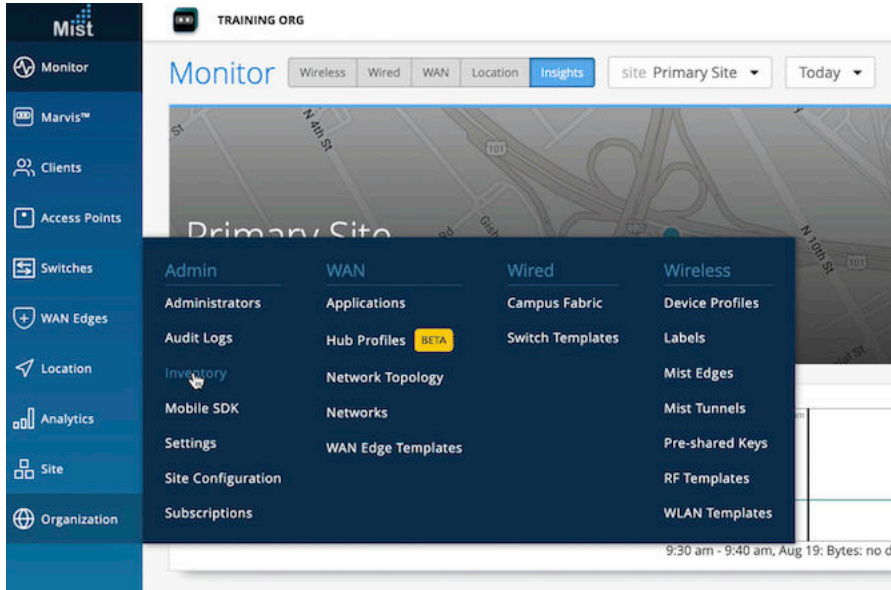
Onboarding multiple switches— When you purchase multiple switches, we provide you with an activation code along with your PO information. Make a note of this code.

Onboarding a single switch— Locate the QR code on your switch and make a note of the alphanumeric claim code directly above it.

1. Log in to your account at <https://manage.mist.com/>.

If you do not have an account, see [Create a Mist Account and Organization](#) for details about creating one.

2. Log in to your Mist organization's dashboard.



3. Navigate to your organization's inventory, and select the WAN tab at the top.

4. Select the **Claim WAN Edges** button in the upper right of the inventory screen.

5. Add the claim code into the list of devices to claim.

6. Clear the **Assign claimed WAN edges to site** check box. This places the device into inventory, to be assigned to a site later.

7. Click the **Claim** button to claim the device into your inventory.

If you claim multiple routers, expect a slight delay for the Router Claim Results window to pop up.

Review the information and **Close** the window.

View your new router or routers on the Inventory page. Expect to see the status as Disconnected.

Onboarding Complete!

Fantastic, the SSR120 is in your inventory! To provision the SSR120, see ["Step 2: Up and Running" on page 4](#) and continue with Add the Network.

Step 2: Up and Running

IN THIS SECTION

● [Add the Network | 5](#)

- Add an Application | 6
- Create a Template | 7
- Create Policies | 11
- Assign the Template to a Site | 13
- Assign the SSR120 to a Site | 14
- Install the SSR120 Hardware | 14
- Connect your SSR120 to the Mist Cloud | 15

The SSR120 has been onboarded to the Juniper Mist™ cloud. To provision the SSR120 with ZTP, log in to your Mist portal and begin the WAN configuration.

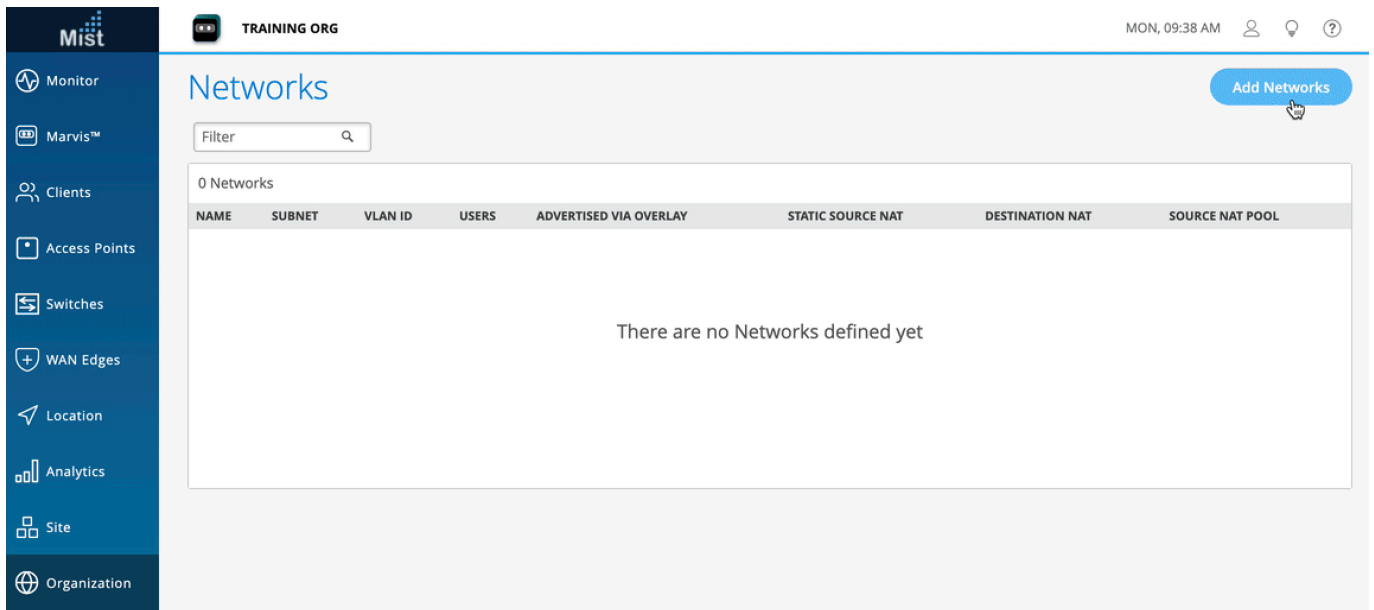
Add the Network

To begin your WAN design, identify the network to be used for accessing applications over a LAN network segment.

1. From the Mist dashboard, navigate to the WAN section of the organization sidebar menu, and select **Networks**.

The screenshot displays the Juniper Mist dashboard interface. The top navigation bar includes the Mist logo, the organization name 'TRAINING ORG', the current time 'MON, 09:38 AM', and user profile icons. The main content area is titled 'Monitor' and features a map of a location in San Jose, California, with various business markers. A sidebar menu on the left lists navigation options: Monitor, Marvis™, Clients, Access Points, Switches, WAN Edges, Location, Analytics, Site, and Organization. The 'Organization' menu is expanded, showing a grid of options: Admin, WAN (marked as BETA), Wired, and Wireless. Under the 'WAN' section, the 'Networks' option is highlighted with a mouse cursor. Other options in the grid include Administrators, Applications, Campus Fabric, Config Templates, Audit Logs, Networks, Switch Templates, Device Profiles, Inventory, Overlays, Labels, Mobile SDK, WAN Edge Templates, Mist Edges, Settings, Site Configuration, Mist Tunnels, Subscriptions, Pre-shared Keys, and RF Templates. At the bottom of the dashboard, a status bar shows network activity: '1:50 am - 2:00 am, Jun 20: Bytes: no data, 0.00 Mbps'.

2. Select **Add Networks** in the upper right of the screen as shown below.



3. Give the network a name.
4. Configure the network subnet as 192.168.1.0/24.

5. Click **Save** at the bottom of the **Edit Network** side panel.

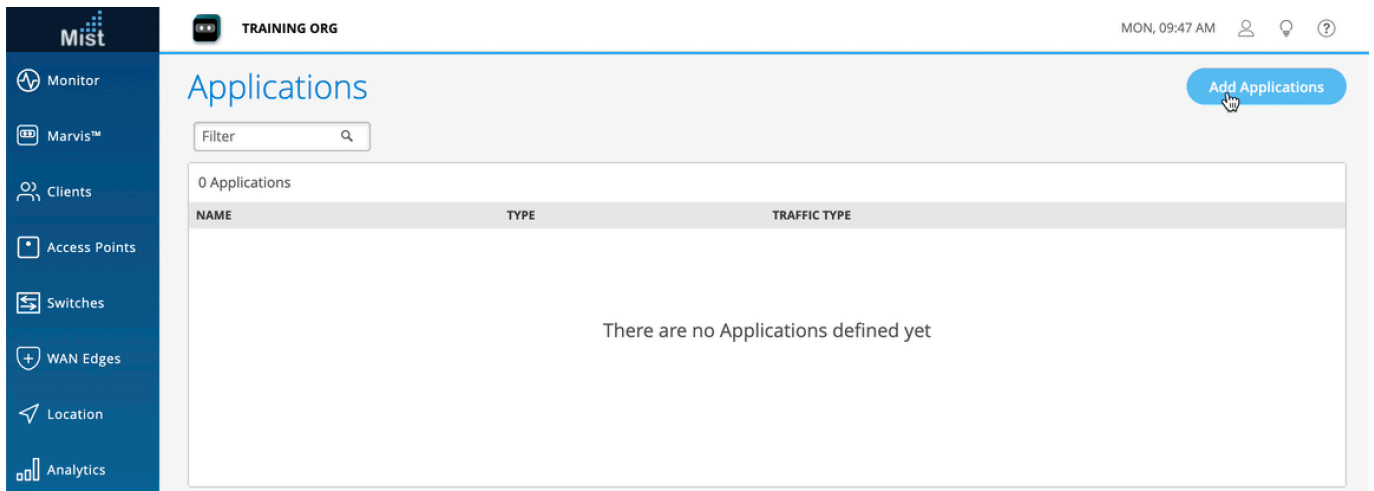
Excellent! This network is now defined for use across the entire org, including the template you will apply to your new SSR120.

Add an Application

Next, define the applications for the WAN to deliver, starting with the Internet.

1. Navigate back to the WAN section of the organization sidebar menu, and select **Applications**.

2. Select **Add Applications** in the upper right.



3. Name the application **Internet**.
4. Enter $0.0.0.0/0$, or an IPv4 address space in the **IP Addresses** configuration.

5. Click **Save** at the bottom of the **Add Application** side panel.

Nice! Your organization is set up to provide access to the Internet using the WAN.

Create a Template

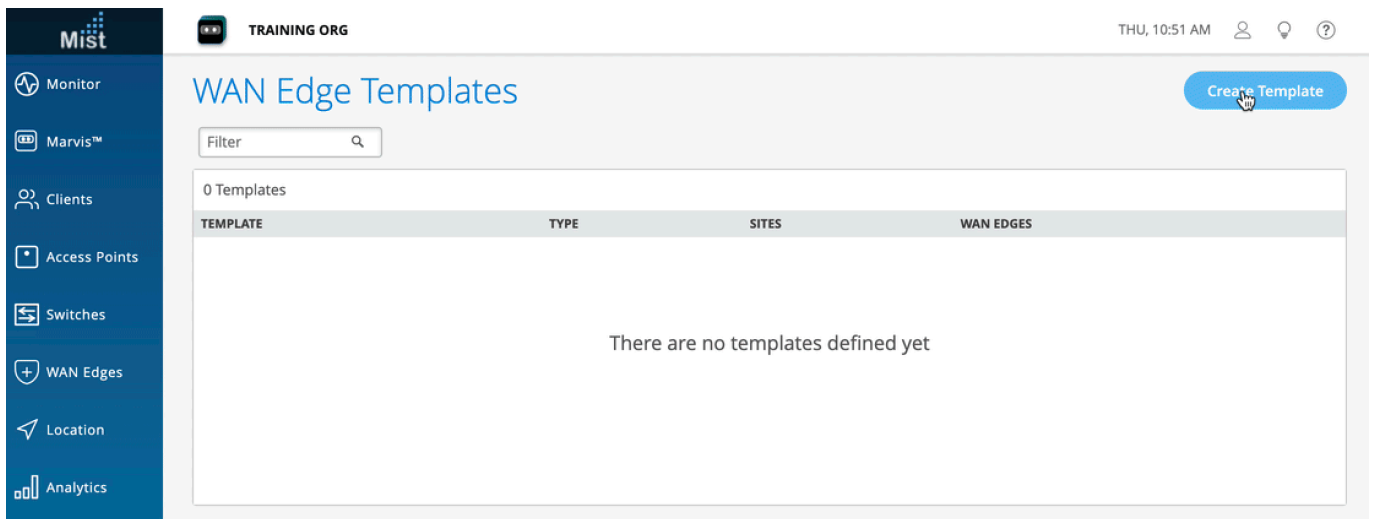
IN THIS SECTION

- Define the WAN Port | 9

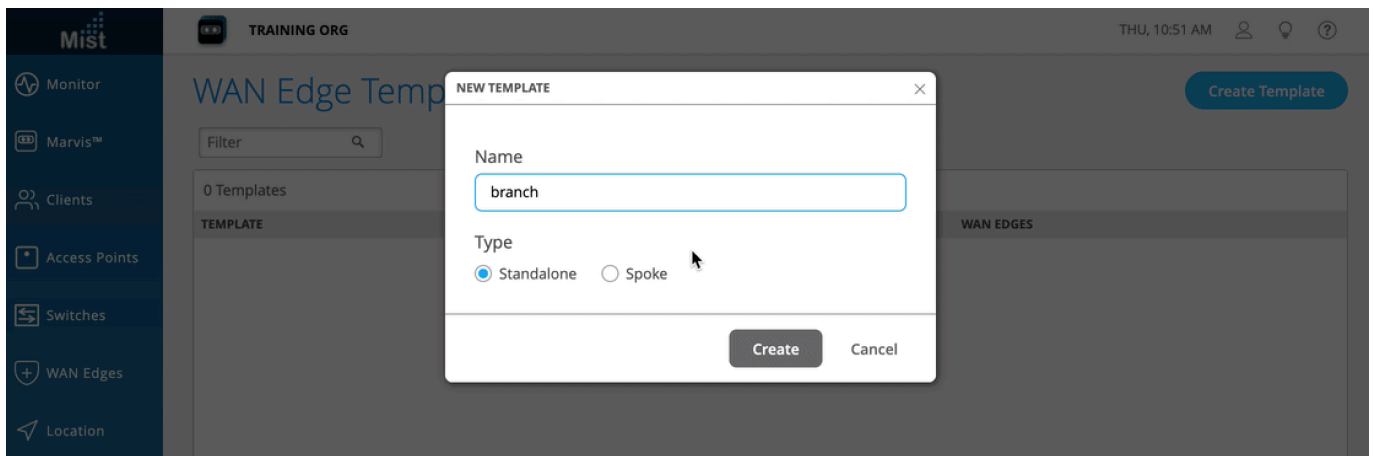
- Define the LAN Port | 10

So far you have an SSR device waiting to be claimed, a network for your LAN, and an Internet application for your WAN to deliver. Next, you need to create a WAN Edge template that ties them all together. Templates provide a re-usable and consistent configuration for every SSR you deploy.

1. Navigate back to the WAN section of the organization sidebar menu, and select **WAN Edge Templates**.
2. Select **Create Template** in the upper right.



3. Give the template a name.
4. Click **Create**.



5. Enter NTP and DNS information to be used by the WAN edge device.

The screenshot shows the Mist management console interface. The left sidebar contains navigation options: Monitor, Marvis™, Clients, Access Points, Switches, WAN Edges, Location, Analytics, Site, and Organization. The main content area is titled 'STANDALONE : branch' and includes a 'Delete Template' link and 'More', 'Save', and 'Cancel' buttons. A red warning message states: 'WAN is required in order to assign the template to site'. The configuration is divided into four sections:

- INFO:** Name field contains 'branch'.
- APPLIES TO SITES:** Shows 0 sites and 0 wan edges, with an 'Assign to Sites' button.
- NTP:** NTP Servers field is empty, with a note '(Comma-separated IPs/Hostnames)'.
- DNS SETTINGS:** DNS Servers field is empty, with a note '(Comma-separated IPs and Max 3)'. DNS Suffix (SRX Only) field is empty, with a note '(Comma-separated Domains and Max 3)'.

Define the WAN Port

The first thing to do in your template is to describe which port to use for the WAN.

1. Scroll to the WAN section of the template, and select **Add WAN**.

The screenshot shows the 'WAN' configuration section in the Mist management console. It displays '0 WANs' and a table with the following columns: NAME, INTERFACE, WAN TYPE, IP CONFIGURATION, and OVERLAY HUB ENDPOINTS. The table is currently empty. Below the table, a message states: 'There are no WAN configurations defined yet'. A blue button labeled 'Add WAN' is visible, with a mouse cursor hovering over it.

2. Name the WAN port wan1.
3. Since you already plugged port 0 on the device into the Internet, enter `ge-0/0/0` to designate it as a WAN port.
4. Make sure **IP Configuration** is set to DHCP, and that Source NAT is enabled.

- Click **Add** at the bottom of the **Edit WAN Configuration** side panel.

Define the LAN Port

Next, associate your LAN with the appropriate port on the SSR, and give the LAN additional network services such as DHCP.

- Scroll to the LAN section of the template, and select **Add LAN**.

- From the **Network** drop-down menu, select your network segment to associate it with the LAN.
- Enter the port used for the LAN port, for example `ge-0/0/3`.
- Enter `192.168.1.1` as the **IP Address** to assign the WAN edge device `.1` as a gateway in the network.

5. Enter /24 for the **Prefix Length**.

Network: my-lan

Interface: ge-0/0/3
(ge-0/0/1 or ge-0/0/1-5 or reth0, comma separated values supported for aggregation)

Port Aggregation (SRX Only)

Redundant **BETA**

IP Address: 192.168.1.1 (Subnet IP: 192.168.1.0)

Prefix Length: 24 (Subnet Prefix Length: 24)

6. Enable the DHCP Server button to provide DHCP services to endpoints on this network.
7. Give your DHCP server an address pool starting with 192.168.1.100 and ending with 192.168.1.200.
8. Enter 192.168.1.1 as the Gateway to be assigned to DHCP clients.
9. Finally, enter 1.1.1.1,8.8.8.8 as DNS Servers to be assigned to clients on the network.
10. Click **Add** at the bottom of the **Edit LAN Configuration** side panel.

DHCP

None Relay (SRX Only) Server

IP Start: 192.168.1.100

IP End: 192.168.1.200

Gateway: 192.168.1.1

DNS Servers: 1.1.1.1,8.8.8.8
(Comma separated list of IP Addresses)

Create Policies

IN THIS SECTION

- Define the Traffic Steering Policy | 12
- Define the Application Policy | 13

Your template has WANs and LANs; now you need to tell the SSR130 how to use them to connect users to applications. This is done using Traffic Steering and Application Policies.

Define the Traffic Steering Policy

1. Scroll to the Traffic Steering section of the template, and select **Add Traffic Steering**.
2. Name your steering policy, for example, local-breakout.
3. Select **Add Paths** to give your steering policy a path to send traffic.
4. Select **WAN** as the path type, and select your WAN interface. For apps that use the policy, this indicates you want them sent directly out of the local WAN interface.
5. **Click the check** in the upper right of the Add Path box, and then click **Add** at the bottom of the **Add Traffic Steering** side panel.

The screenshot shows the 'Add Traffic Steering' configuration interface. The 'Name' field contains 'local-breakout'. Under 'Strategy', the 'Ordered' radio button is selected. The 'PATHS' section is currently empty, displaying 'No Paths defined' and an 'Add Path' button. An 'Add Path' dialog box is open, with 'Type' set to 'WAN' and 'Name' set to 'wan1'. A checkmark icon is visible in the top right corner of the dialog box. At the bottom of the main panel, there are 'Add' and 'Cancel' buttons.

Next, define the Application Policy.

Define the Application Policy

The Application Policy ties the networks and applications together.

1. Scroll to the Application Policy section of the template, and select **Add Policy**.
2. Enter a string in the name column, and click the check box to the right of your entry.

APPLICATION POLICIES ▼ ⚠ Destination zone in SRX is determined by the Traffic Steering path. Please ensure that policies have Traffic Steering assigned.

Search

1 Application Policy

Import Application Policy Add Application Policy Edit Applications

NO.	NAME	NETWORK / USER (MATCHING ANY)	ACTION	APPLICATION / DESTINATION (MATCHING ANY)	TRAFFIC STEERING
1	default	+	→ ✓	+	+

3. From the **Network** column drop-down, select your LAN network.
4. From the **Applications** column drop-down, select your Internet app.
5. From the **Traffic Steering** column drop-down, select your local breakout steering policy.

APPLICATION POLICIES ▼ ⚠ Destination zone in SRX is determined by the Traffic Steering path. Please ensure that policies have Traffic Steering assigned.

Search

1 Application Policy

Import Application Policy Add Application Policy Edit Applications

NO.	NAME	NETWORK / USER (MATCHING ANY)	ACTION	APPLICATION / DESTINATION (MATCHING ANY)	TRAFFIC STEERING
1	default	+ my-lan	→ ✓	+ Internet	+ local-breakout

Almost there! You now have a working WAN Edge template that you can apply to many sites and devices across your organization.

Assign the Template to a Site

Now that you have set up a template, you need to save and assign it to the site where your SSR will be deployed.

1. Scroll to the top and click **Save**.

- Click the **Assign to Site** button, and select the site where you want the template config applied.

The screenshot displays the Mist management console interface for configuring a standalone WAN edge device. The left sidebar shows navigation options like Monitor, Marvis, Clients, Access Points, Switches, WAN Edges, Location, Analytics, Site, and Organization. The main content area is titled 'STANDALONE : branch' and includes several configuration panels:

- INFO:** Name: branch
- APPLIES TO SITES:** 1 sites, 0 wan edges, with an **Assign to Sites** button.
- NTP:** NTP Servers: pool.ntp.org (Comma-separated IPs/Hostnames)
- DNS SETTINGS:** DNS Servers: 1.1.1.1, 8.8.8.8 (Comma-separated IPs and Max 3); DNS Suffix (SRX Only): (Comma-separated Domains and Max 3)
- WAN:** A table showing 1 WAN entry:

NAME	INTERFACE	WAN TYPE	IP CONFIGURATION	OVERLAY HUB ENDPOINTS
wan1	ge-0/0/0	broadband	DHCP	--

Great work! All that remains is to associate the SSR120 with a site.

Assign the SSR120 to a Site

Once you associate the SSR120 with a site and a template, the working configuration will be complete.

- Select Organization on the left sidebar, and navigate to your organization's WAN Edges Inventory.
- Select your SSR120 and assign it to your site.
- If you are configuring a **Mist-managed** router (SSR Software version 6.x and greater), check the **Manage configuration with Mist** check box. For version 5.4.x and greater conductor-managed routers, make sure there is **no** check mark in the **Manage Configuration from Mist** under **Manage Configuration**.
- Select **Assign to Site**.

Congratulations, you now have a Mist-claimed SSR120, and a basic configuration ready to send to your device!

Install the SSR120 Hardware

Your SSR120 installation has specific features that must be installed depending on your use and environment. Refer to the [SSR120 Hardware Installation Guide](#) to complete the following procedures:

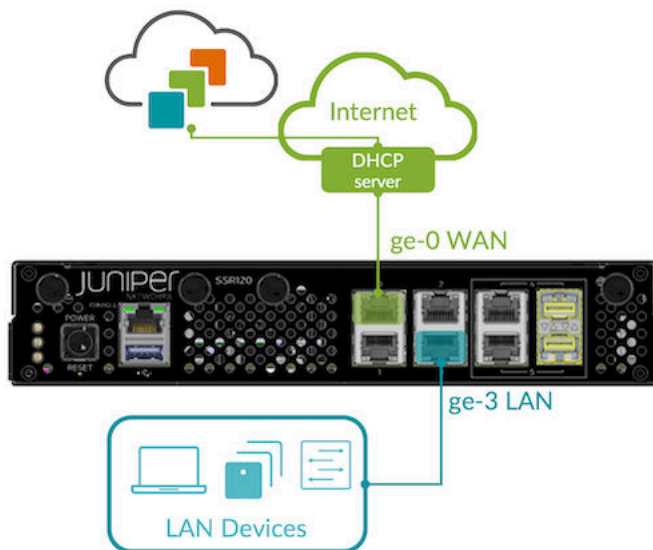
- Rack, Wall, or Surface Mounting
- LTE Antenna Install
- SIM Card Install
- Connecting Power

Please return here after completing those procedures to complete the network connections.

Connect your SSR120 to the Mist Cloud

Your SSR120 uses port 0 (ge-0-0) as a default WAN port to contact Mist for zero-touch provisioning (ZTP). You'll need to set up port 3 (ge-0-3) with a LAN network.

1. Connect port 0 to an Ethernet WAN link that can provide:
 - DHCP address assignment
 - Connectivity to the Internet and Mist (see [Firewall Requirements](#))
2. Connect SSR port 3 to your LAN devices, including:
 - Mist-managed Juniper EX switches
 - Mist APs
 - User devices



Great job, your SSR120 is now connected to the Mist cloud! In just a few minutes, Mist will send the template-driven configuration down to your device. Once the configuration has been applied, it will begin forwarding sessions from LAN to WAN as described by your policy.

Head over to the WAN Edges menu on the Mist sidebar, select your device, and watch events as the device completes ZTP.

As your client devices connected to the LAN are assigned addresses from the WAN Edge DHCP server and begin sending sessions, telemetry will populate the insights page, and Marvis will start analyzing it on your behalf.

For conductor-managed devices, additional views for Cloud Telemetry are configurable in the SSR GUI and PCLI.

Step 3: Keep Going

IN THIS SECTION

- [Learn with Videos | 17](#)

Congratulations! Now that you've done the initial configuration, your SSR120 is ready to use. Here are some things you can do next:

What's Next?

If you want to	Then
Get an overview of Configuration and Configuration Management on the SSR120	See the SSR Configuration Management section of the SSR Documentation in the Juniper Networks TechLibrary

General Information

If you want to	Then
See all documentation available for the SSR120	See the SS120 Documentation in the Juniper Networks TechLibrary
Get more details about installing and maintaining the SSR120 hardware	See the SSR120 Hardware Guide

(Continued)

If you want to	Then
See all documentation available for SSR software	Visit Session Smart Router Documentation in the Juniper Networks TechLibrary
Stay up-to-date about new and changed features and known and resolved issues	See the SSR Release Notes

Learn with Videos

Here are some great video and training resources that will help you expand your knowledge of SSR Software.

If you want to	Then
Learn about Virtual Router Redundancy Protocol for the SSR	See SSR Virtual Router Redundancy Protocol on the SSR YouTube page
Learn about BFD for Traditional Routing	See BFD for Traditional Routing on the SSR YouTube page
Learn about Configuration Concurrency with the SSR	See Configuration Concurrency on the SSR YouTube page
Learn about Service Route Redundancy and Vectors	See Service Route Redundancy and Vectors on the SSR YouTube page
Get short, concise tips and instructions that provide quick answers, clarity, and insight into specific features and functions of Juniper technologies	See Learning with Juniper on Juniper Networks main YouTube page
View a list of free technical training offered by Juniper	Visit the Getting Started page on the Juniper Learning Portal

Juniper Networks, the Juniper Networks logo, Juniper, and Junos are registered trademarks of Juniper Networks, Inc. in the United States and other countries. All other trademarks, service marks, registered marks, or registered service marks are the property of their respective owners. Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice. Copyright © 2023 Juniper Networks, Inc. All rights reserved.