JUNIPER NETWORKS | Engineering Simplicity

Day One+

SSR130

IN THIS GUIDE

Step 1: Begin

IN THIS SECTION

In this guide, we provide a simple, three-step path to quickly get you up and running with your new SSR130 appliance. You'll learn how to install the SSR in a rack, power it up, create a basic configuration, and deploy it on your network.

Meet the SSR130

The Juniper Networks SSR130 network appliance is part of the SSR portfolio. The SSR130 features four 1 GbE ports, two 1 GbE RJ-45/SFP combo ports, 8 GB of memory, and a 120 GB enterprise-grade solid-state drive (SSD) for storage.

The SSR130 runs the FIPS 140-2 Level 1 compliant Session Smart Router (SSR) software, which provides secure and resilient WAN connectivity.

The SSR130 is available in models with or without LTE support.

Install the SSR130 in a Rack

IN THIS SECTION

You can install the SSR130 on a table or desk, on a wall, or in a rack. We show you how to install it in a rack.

What's in the Box?

- SSR130
- LTE antennas (provided for SSR130-AA and SSR130-AE models)
- A power cord appropriate for your geographic location
- An RJ-45 cable
- A DB-9 adapter

NOTE: Use the Juniper Support portal to register all new Juniper Networks hardware products, any changes to an existing installed product, and activate your hardware replacement service-level agreements (SLAs).

What Else Do I Need?

To mount the SSR130 in a rack, you'll need to order the rack mount kit SSR100-RMK. The kit contains:

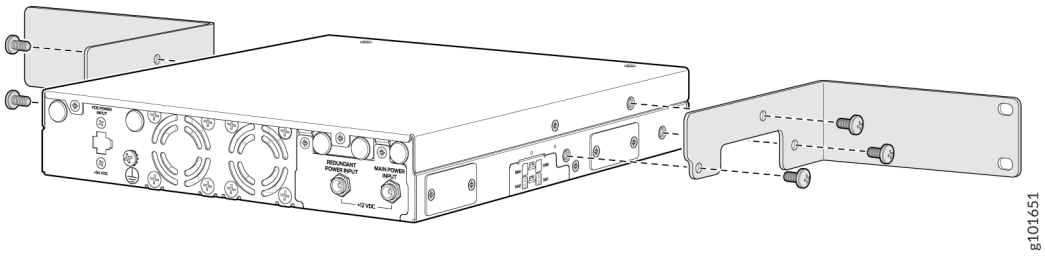
- 2 mounting brackets
- 4 M5x7.0 mm flat-head bracket screws
- 4 flat-head M6x16 mm Phillips round head mounting screws
- 4 M6 floating nut in cage, steel+zinc
- 4 M6 plastic washers

You'll also need to provide:

- Someone to help you do the installation
- Rack mount screws appropriate for your rack
- A number 2 Phillips (+) screwdriver

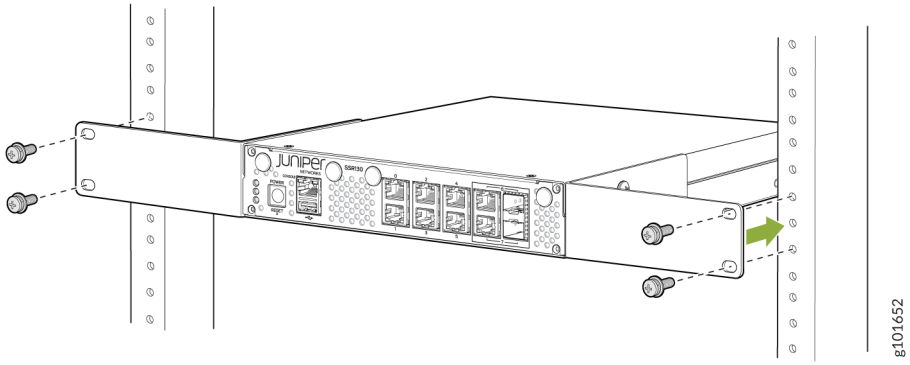
Rack It

1. Remove the SSR130 from the shipping carton.
2. Attach the mounting brackets to the side panels of the appliance using the M5x7.0mm flat-head screws. Tighten the screws firmly. Ensure the curved part of the bracket fits snugly on the lower portion of the appliance's body.



3. Have one person grasp both sides of the appliance and position it in the rack, aligning the mounting bracket holes with the threaded holes in the rack rail. Align the bottom hole in each mounting bracket with a hole in each rack rail,

making sure the appliance is level.

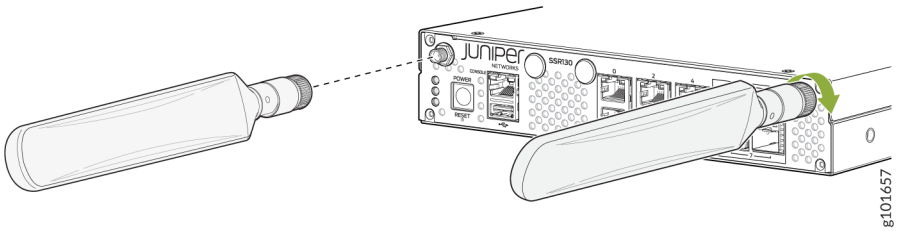


4. Have a second person secure the appliance to the rack by using the 4 flat-head M6x16 mm Phillips round head mounting screws, 4 M6 floating nut in cage, and 4 M6 plastic washers. Tighten the screws firmly.
5. Check that the appliance is level. All screws on one side of the rack should line up with the screws on the other side.

Install Antennas

If your SSR130 supports LTE, install the antennas as follows:

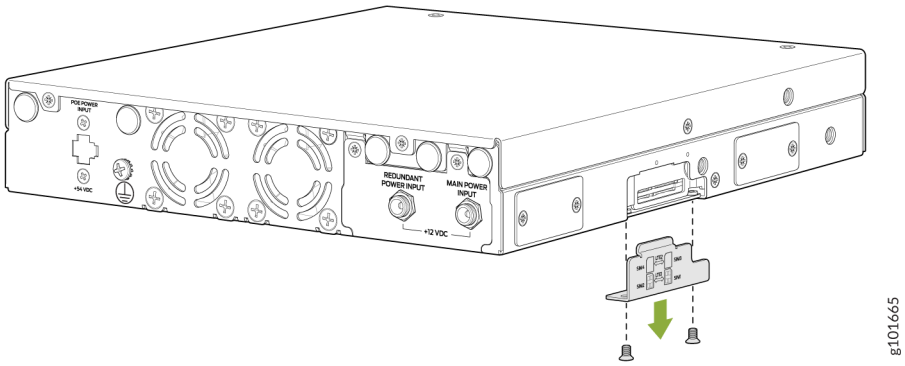
1. Remove the dust caps from the SMA connectors on the SSR130 front panel.
2. Attach the antennas to the SMA connectors and tighten them firmly by hand.



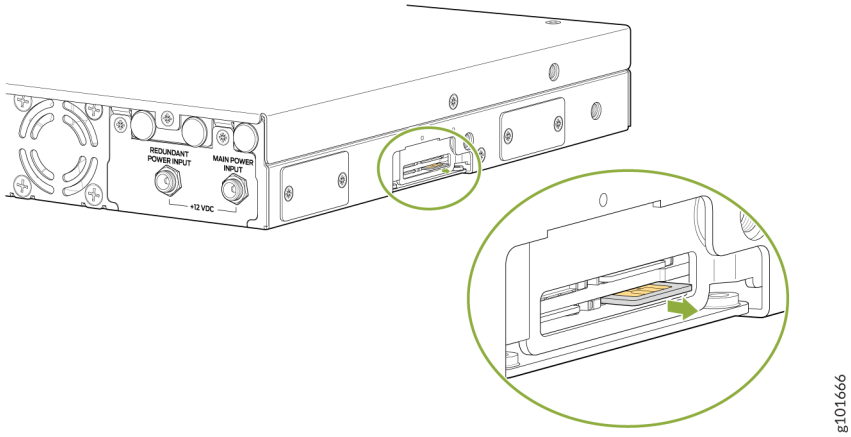
3. Rotate the antennas 0-90 degrees in the vertical direction.

Insert the SIM Card

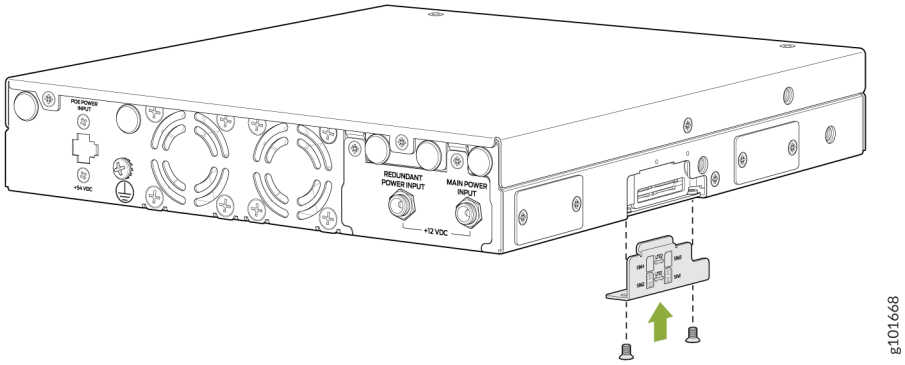
1. Use a Philips screwdriver to remove the SIM card slot cover on the side of the appliance.



2. Insert the SIM card into slot SIM1. Note that even though there are multiple slots, **only slot 1** should be used for the SIM card.



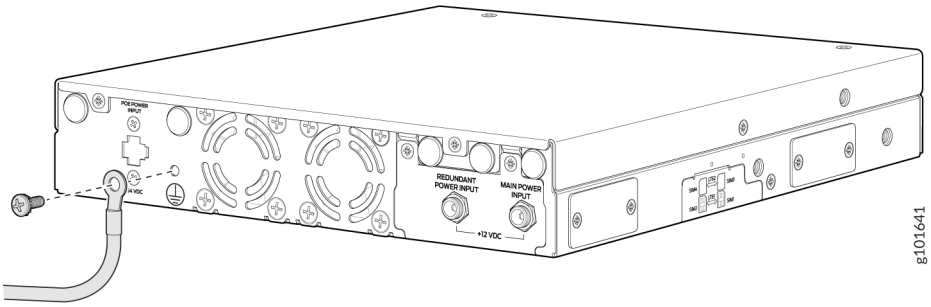
3. Replace the SIM card slot cover and tighten the screws.



Get Grounded

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, you must connect the chassis to earth ground before you connect it to power. To ground the appliance:

1. Wrap and fasten one end of the ESD grounding strap around your wrist and connect the other end to a site ESD point. For more details, see Prevention of Electrostatic Discharge Damage.
2. Ensure that all grounding surfaces are clean and brought to a bright finish before grounding connections are made.
3. Connect the ground cable to a proper earth ground, such as the appliance rack.
4. Use a Phillips screwdriver to remove the screw from the grounding point on the rear of the chassis.
5. Place the ground cable lug attached to the ground cable over the grounding point, and secure the lug with the screw.



6. Dress the ground cable and verify that it does not touch or block access to the appliance components, and that it doesn't hang where someone could trip over it.

Power On

Now that the SSR130 is rack mounted, it's time to power up.

1. Wrap and fasten one end of the electrostatic discharge (ESD) ground strap around your bare wrist, and connect the other end to a site ESD point.
2. Plug the power cord barrel connector into the +12 VDC Main Power Input on the back of the SSR130, and tighten the lock ring.
3. If the AC power source outlet has a power switch, turn it off.
4. Insert the power cord plug into the AC power source outlet.
5. If the AC power source outlet has a power switch, turn it on.

Step 2: Up and Running

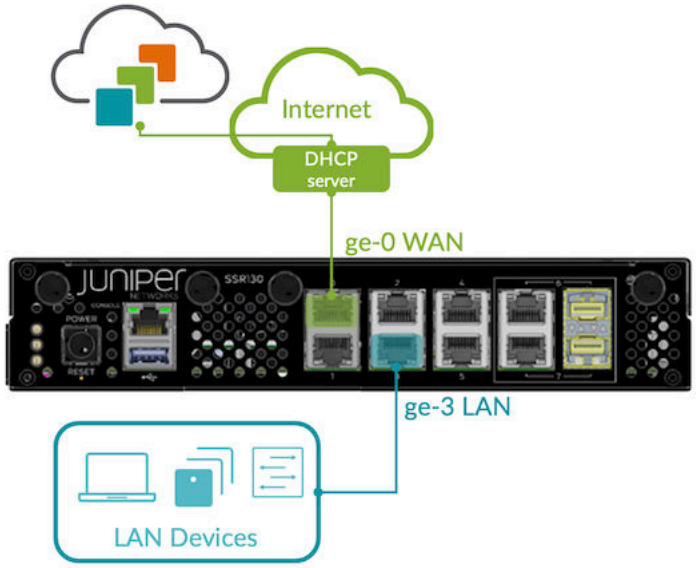
IN THIS SECTION

Now that the SSR130 is powered on, let's get it up and running on Juniper Mist™ cloud. You'll need a Juniper Mist WAN Assurance subscription and your login credentials for the Juniper Mist portal.

Connect your SSR130 to the Mist Cloud

Your SSR130 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 SSR 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



3. Power on the SSR130.

Great job! Your SSR130 is now connected to the Mist cloud and awaiting further instructions.

Claim Your Device

IN THIS SECTION

To add the SSR130 to your organization's WAN Edge inventory, you'll need to enter the SSR130 claim information into Mist. Locate the claim label on the rear panel.

There are two ways to enter the device claim information into Mist. Choose the method that is best for you.

- Scan the QR code with the MistAI app
- Manually enter the claim code in Mist

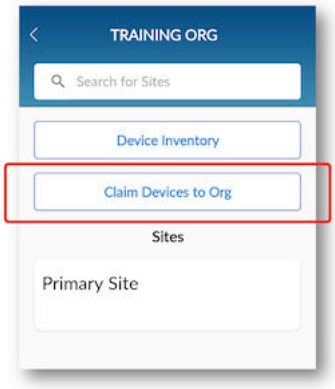
NOTE: You can download the Mist Application from the following mobile app stores:

For Apple Devices

For Android Devices

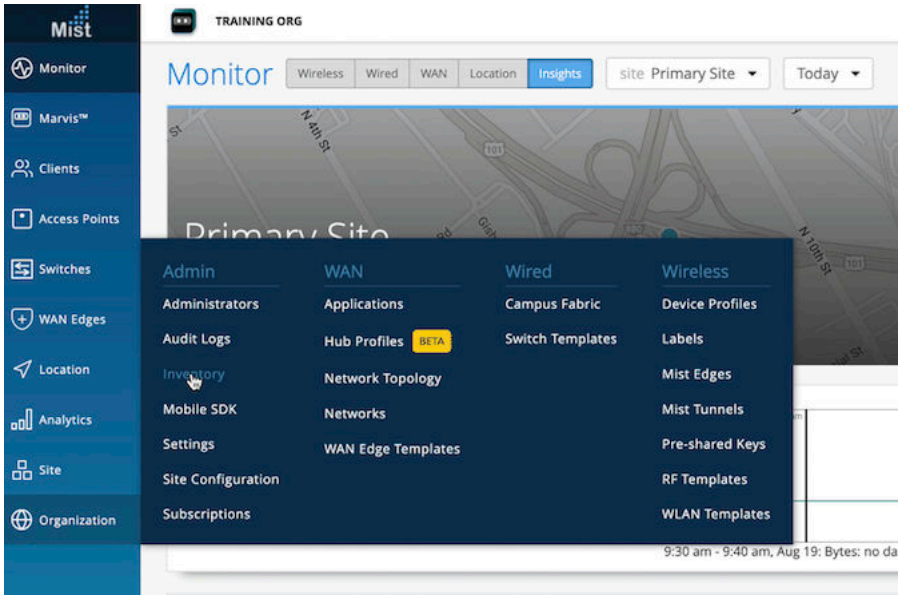
Scan the QR Code

1. Open your MistAI App.
2. Select **Claim Devices to Org**.
3. Scan the QR code.



Enter the Mist Claim Code

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



2. Navigate to your organization's inventory, and select the WAN tab at the top.
3. Select the **Claim WAN Edges** button in the upper right of the inventory screen.
4. Add the claim code into the list of devices to claim.
5. Clear the **Assign claimed WAN edges to site** check box. This places the SSR into inventory, to be assigned to a site later.
6. Click the **Claim** button to claim the SSR into your inventory.

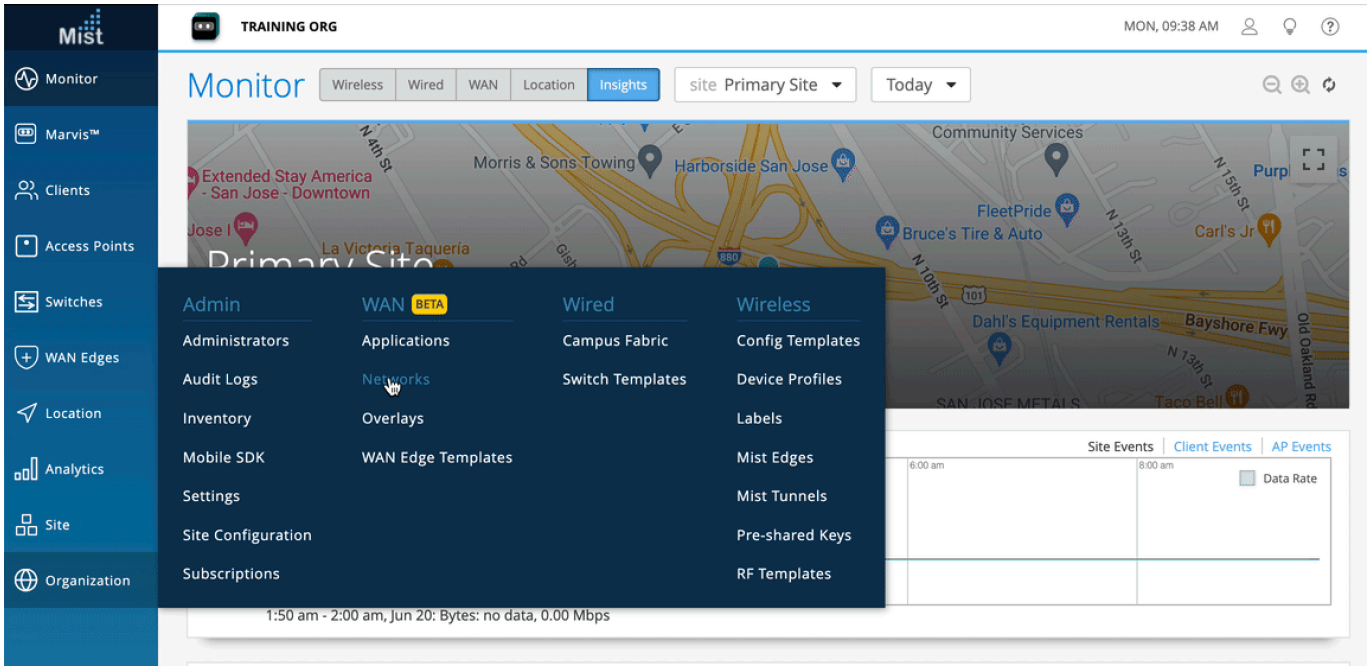
Onboarding Complete!

Fantastic, the SSR130 is in your inventory! To provision the SSR130 with ZTP, log in to Mist and continue with WAN configuration.

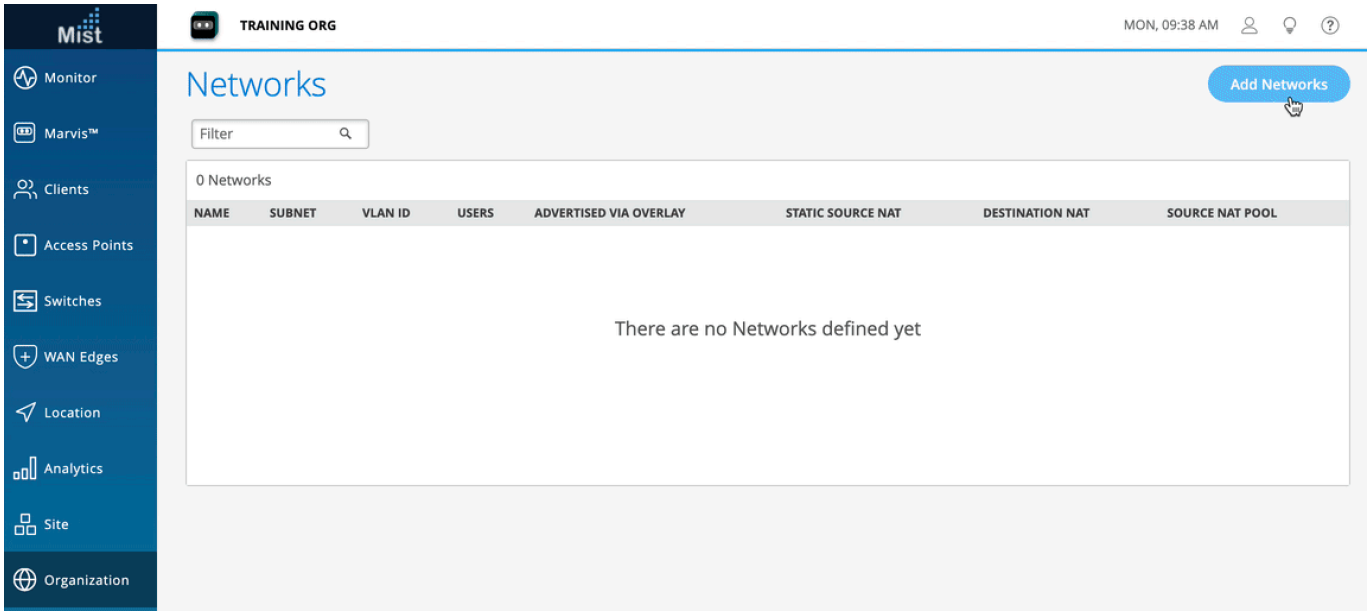
Add the Network

To begin your WAN design, identify the network the SSR will use to access applications over a LAN network segment.

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

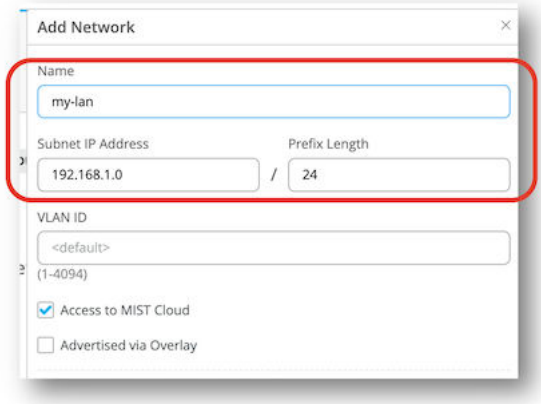


2. Select **Add Networks** in the upper right.



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.

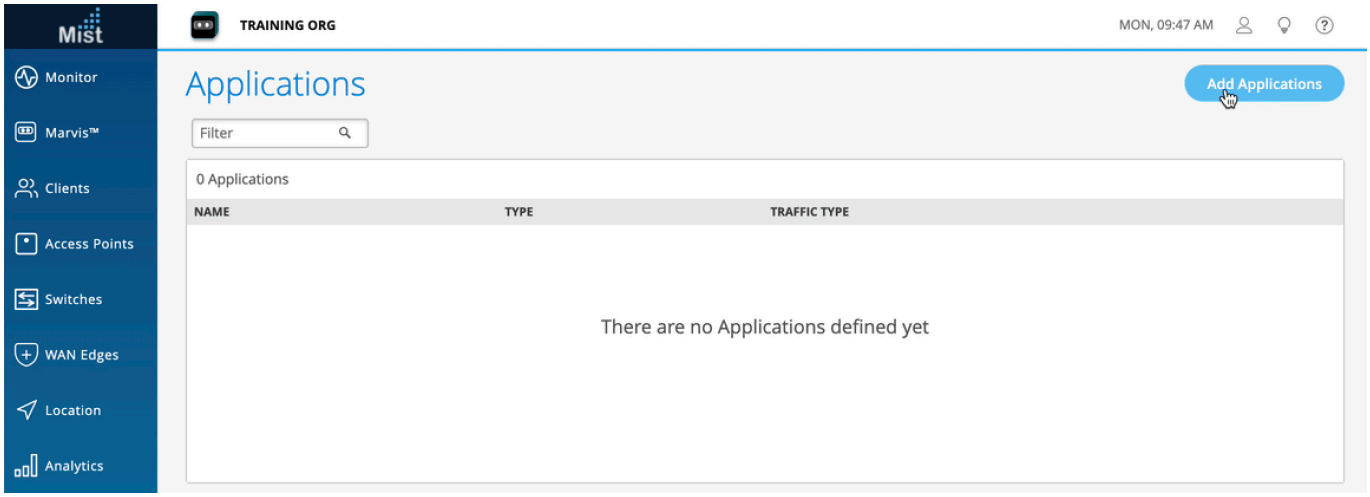
Excellent! You have now defined this network for use across the entire organization, including the template you will apply to your new SSR130.

Add an Application

SUMMARY

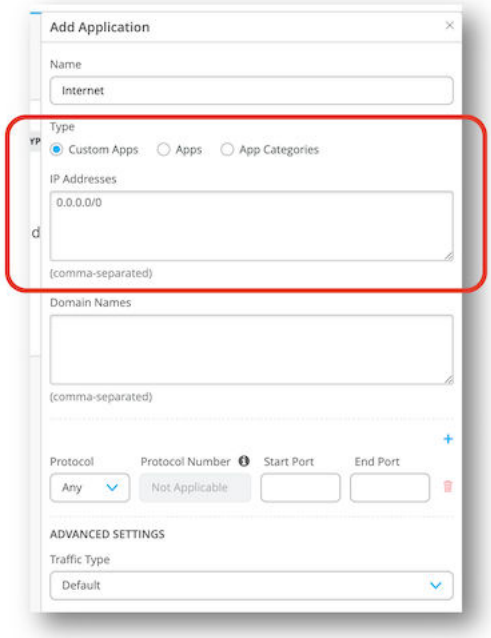
Next, define the applications for the WAN to deliver, starting with the Internet.

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.

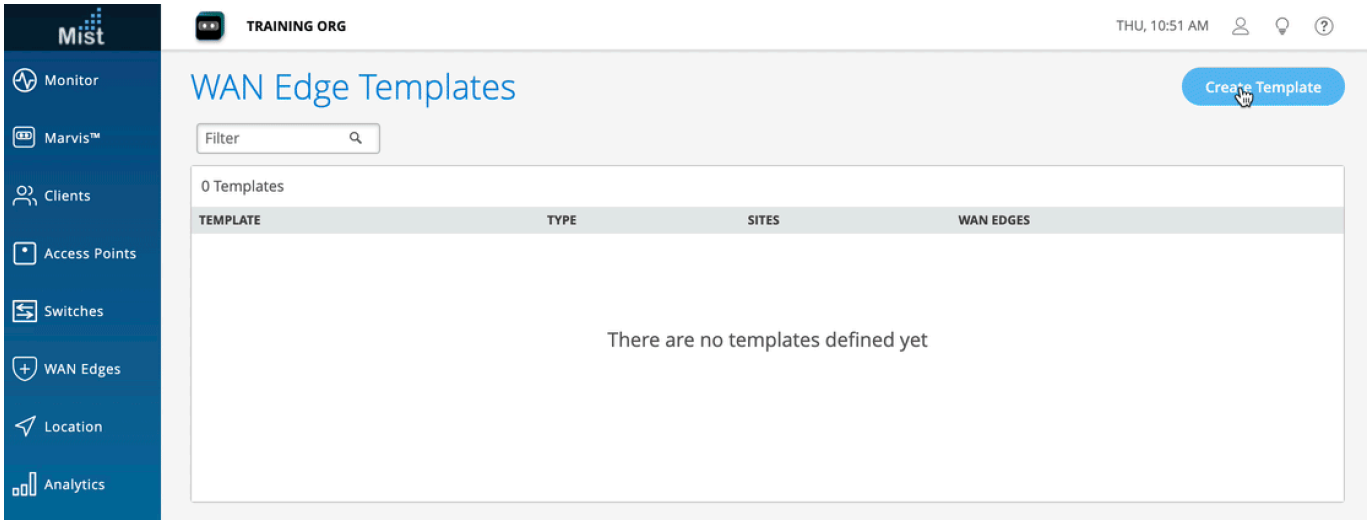
Create a Template

IN THIS SECTION

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.

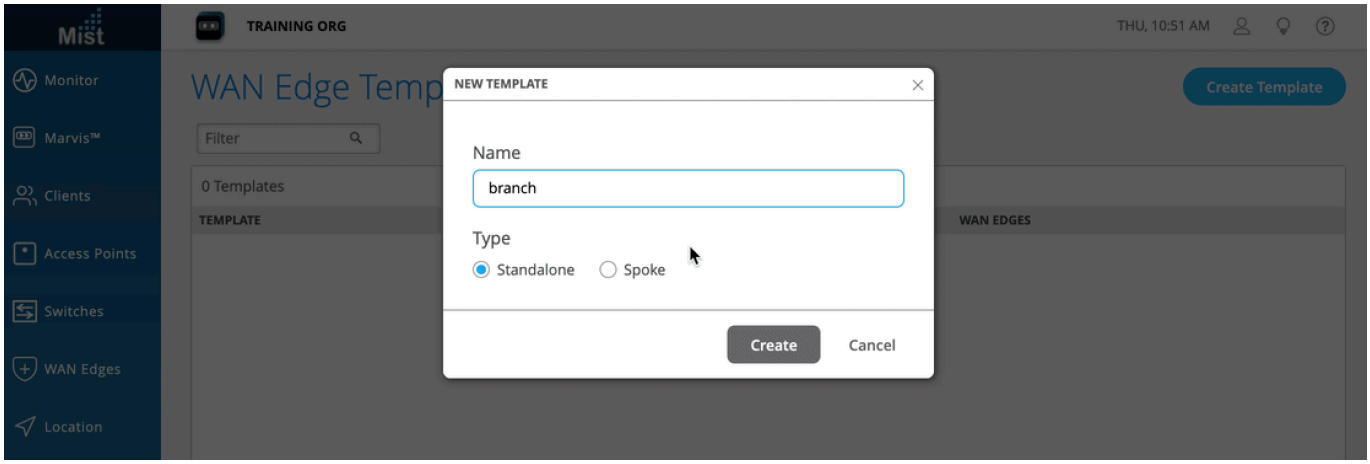
1. Navigate back to the WAN section of the organization sidebar menu, and select **WAN Edge Templates**.

2. Select **Create Template** in the upper right.

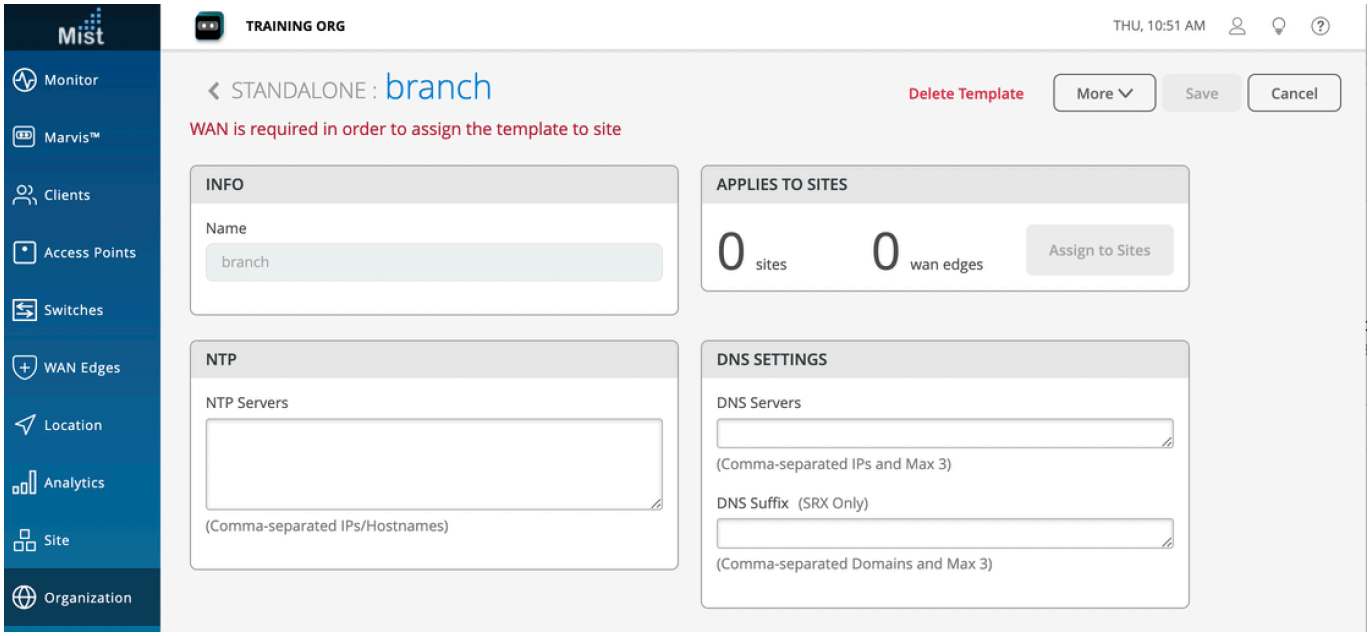


3. Name the template.

4. Click **Create**.



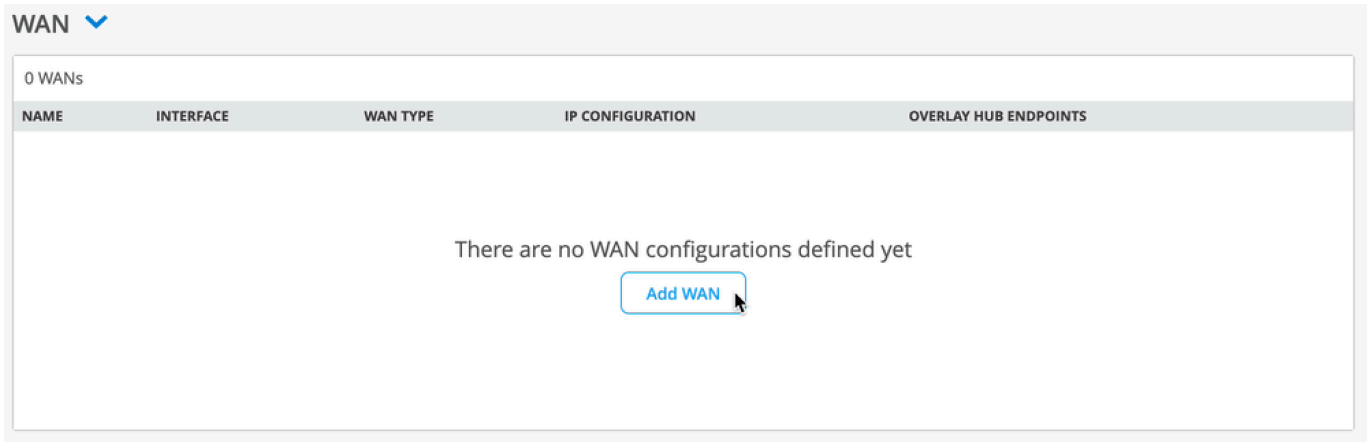
5. Enter NTP and DNS information to be used by the WAN edge device.



Define the WAN Port

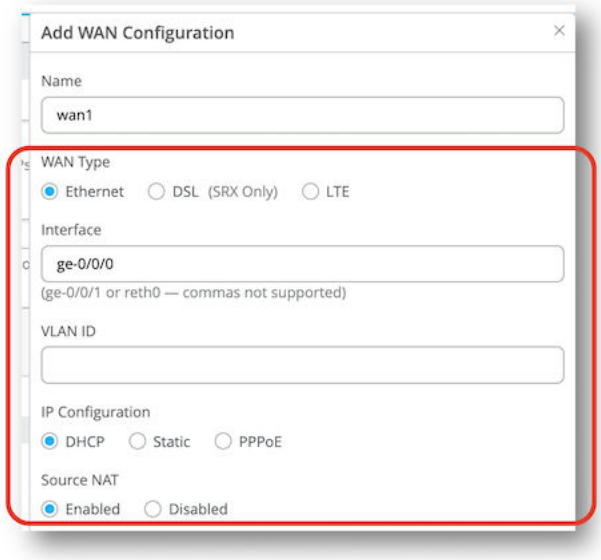
The first thing to do in your template is to define which port to use for the WAN.

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



2. Name the WAN port `wan1`.
3. Since you already plugged port 0 on the SSR130 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.

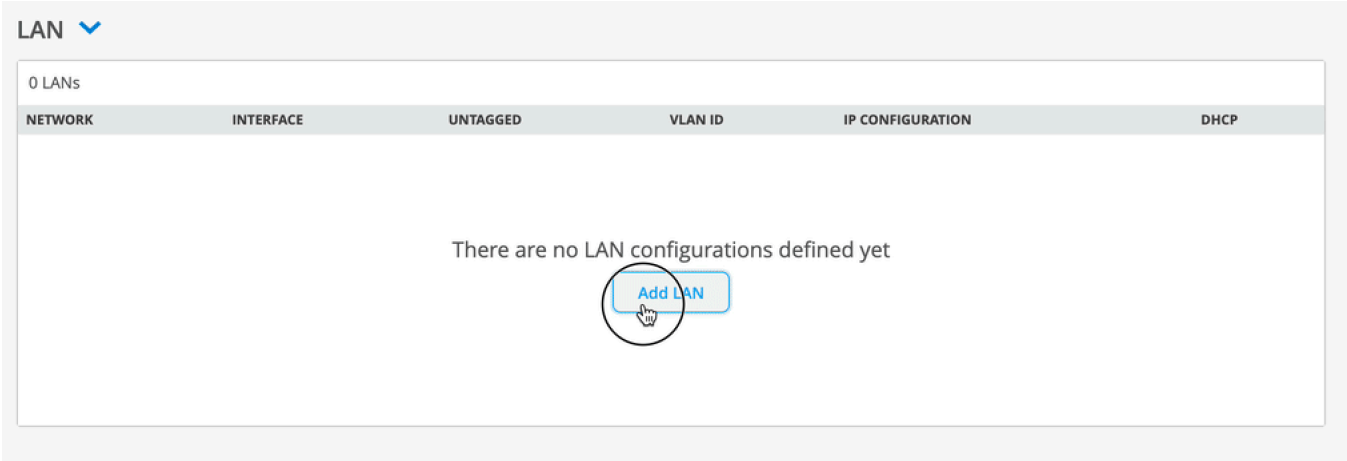
5. Click **Add** at the bottom of the **Edit WAN Configuration** side panel.



Define the LAN Port

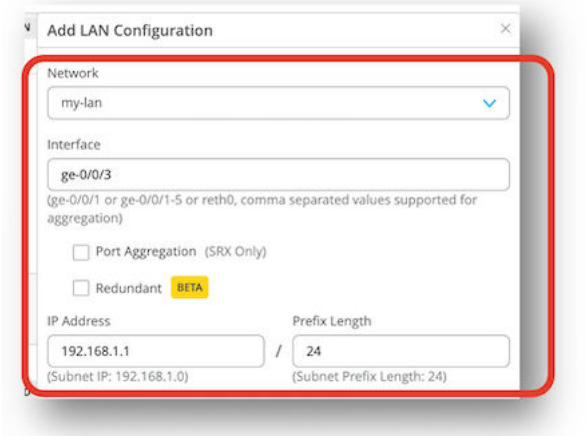
Next, associate your LAN with the appropriate port on the SSR, and give the LAN additional network services such as DHCP.

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

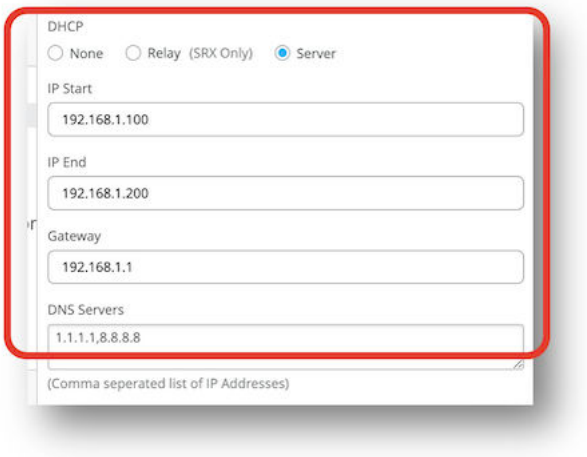


2. From the **Network** drop-down menu, select your network segment to associate it with the LAN.
3. Enter the port used for the LAN port, for example `ge-0/0/3`.
4. Enter `192.168.1.1` as the **IP Address** to assign the WAN edge device `.1` as a gateway in the network.

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



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.



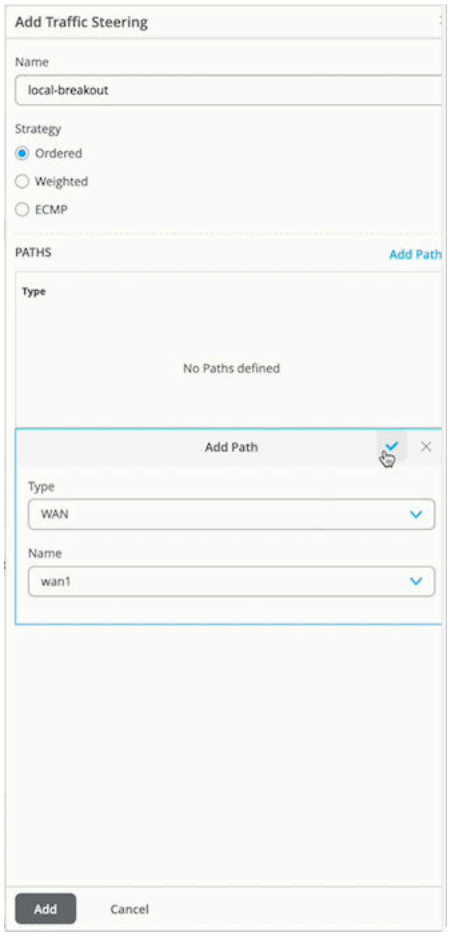
Create Policies

IN THIS SECTION

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.

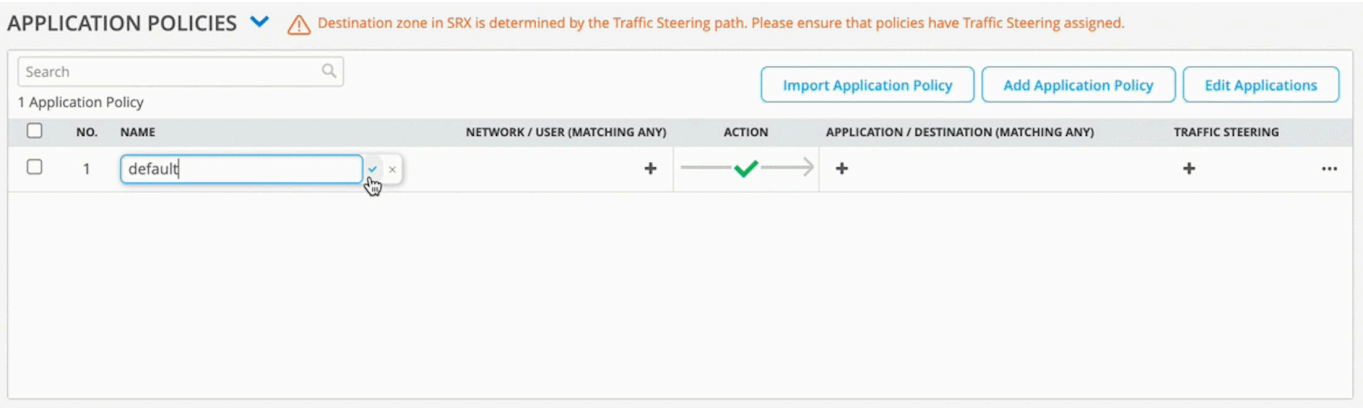


Next, define the Application Policy.

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.



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.

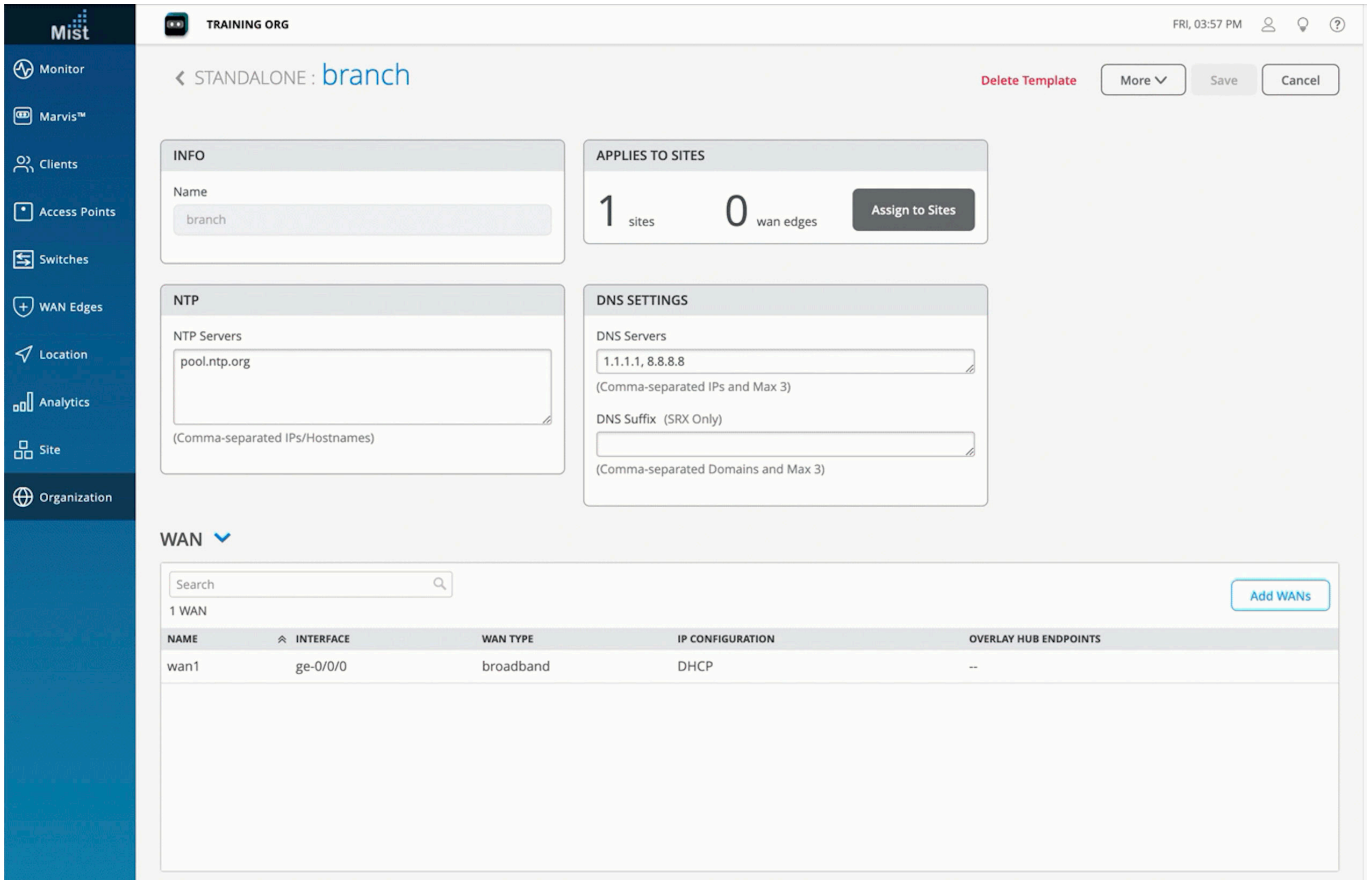
Almost there! You now have a working WAN Edge template that you can apply to many sites and devices across your organization.

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**.

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



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

Assign the SSR130 to a Site

Associating the device with the site and template gets you a working config!

1. Go to your organization's WAN Edges Inventory.
2. Select your SSR130.
3. Assign the SSR to your site.
4. 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**.
5. Select **Assign to Site**.

Congratulations!

Mist is now sending the template-driven configuration down to your device. After a few minutes to process and apply the configuration, the SSR will begin forwarding sessions from LAN to WAN as described by your policy.

Head over to the WAN Edges menu on the sidebar, select your SSR130, and watch events as it 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

Congratulations! Now that you've done the initial configuration, your SSR130 is ready to use. Here are some things you can do next:

What's Next?

If you want to	Then
Get an overview of the SSR configuration and how it is managed	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 SSR130	See the SSR130 Documentation in the Juniper Networks TechLibrary
See all documentation available for SSR software	Visit Session Smart Router Documentation in the Juniper Networks TechLibrary

(Continued)

If you want to	Then
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