

Configure User and Device Authentication



For supported software information, click here.

For users who are using an SD-WAN device to connect to a SASE gateway over an IPsec tunnel, you can create rules to authenticate both the user and the device. You can use user and device authentication to authenticate traffic that enters through Versa SASE gateways to access security services using a non-Versa SASE client. For example, you can authenticate users who connect from a remote location using a site-to-site tunnel to the SASE cloud gateway. You can authenticate these users and devices before SASE gateways route the traffic to internet or private applications.

To authenticate users and devices, you create authentication profiles and create rules to filter users.

To define rules for user and device authentication, you can select destination zones, IP addresses, SASE services, and schedules as match criteria to decide when to authenticate users. You can also create rules with match criteria for users who you do not want to authenticate.

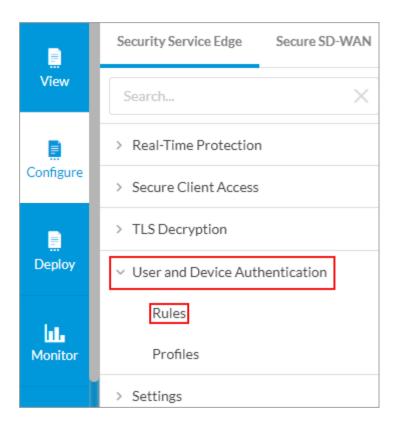
You configure user and device authentication profiles to specify the authentication type for user authentication. You use these authentication profiles in user and authentication rules to specify the method to authenticate users who match the authentication rule criteria.

For information about configuring user and group authentication for Releases 11.3.1 and earlier, see <u>Configure User and Device Authentication</u>.

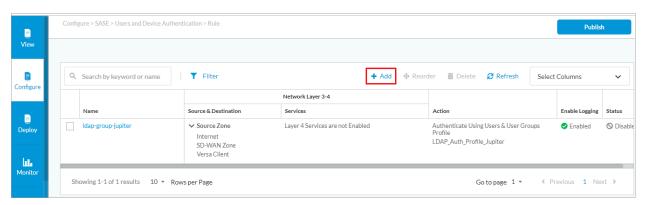
Configure User and Device Authentication Rules

To configure user and device authentication rules for SASE users and groups:

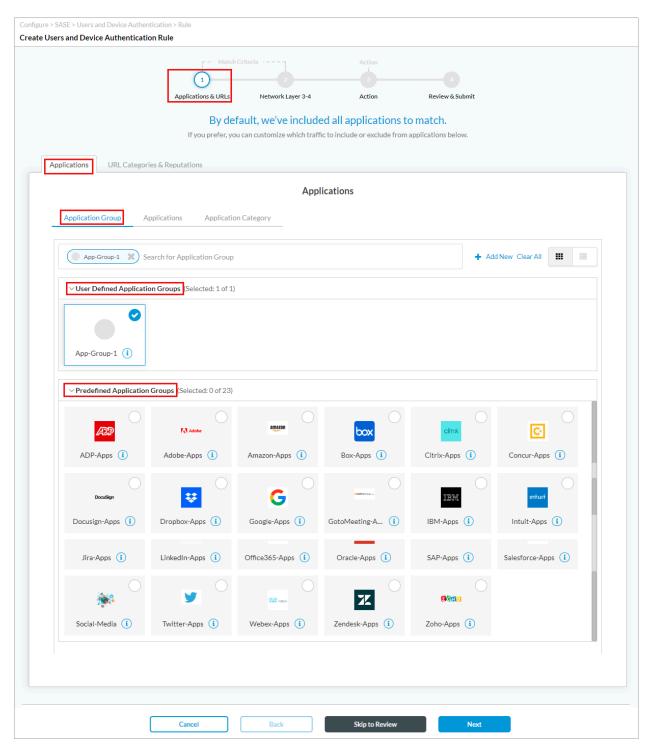
1. Go to Configure > Security Service Edge > User and Device Authentication > Rules.



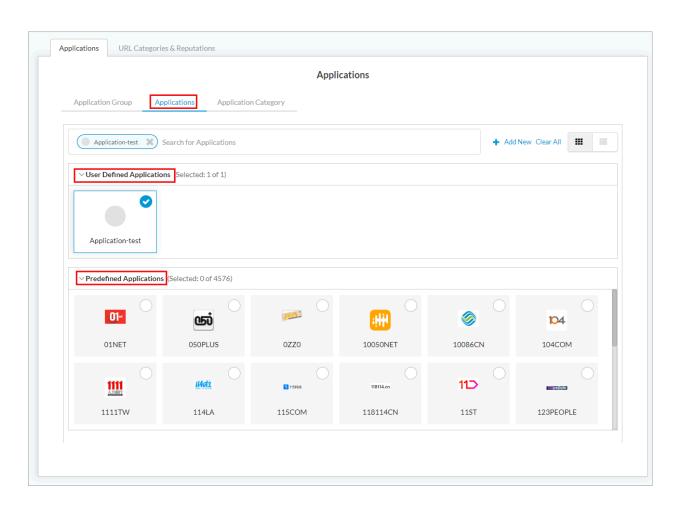
The Rule screen displays.



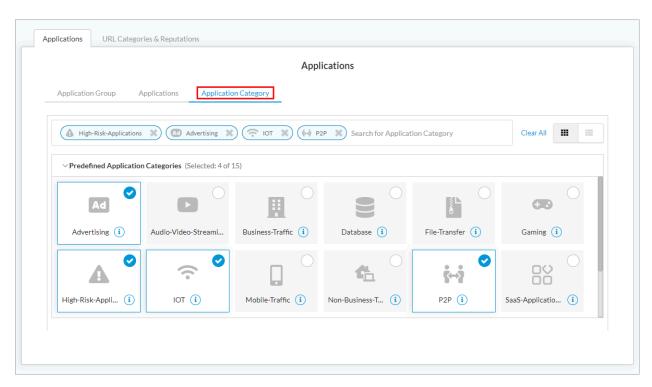
- 2. To create a new users and groups profile, click + Add. The Create Users and Device Authentication Rule window displays the first step of the workflow:
 - For Releases 12.1.1 and later, the first step is Applications and URLs.
 - For Releases 11.4.1 and earlier, the first step is Network Layer 3-4. Skip to Step 11 of this procedure to continue.
- 3. For Releases 12.1.1 and later, in Step 1, Applications and URLs, select the match criteria for applications, reputations, and URLs. By default, all applications, URLs, and reputations are included in the match criteria.



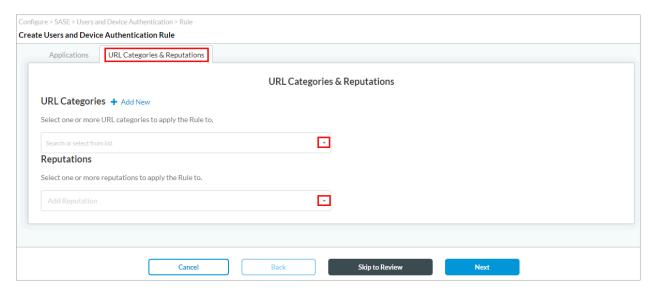
- 4. Select the Applications > Application Group tab, and then select one or more user-defined and predefined application groups for the rule to match.
- 5. Select the Applications > Applications tab, and then select one or more user-defined and predefined applications for the rule to match.



6. Select the Applications > Application Category tab, and then select one or more predefined application categories for the rule to match.

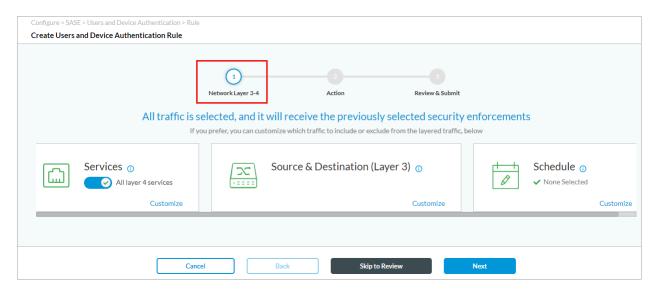


7. Select the URL Categories and Reputations tab. The following screen displays.

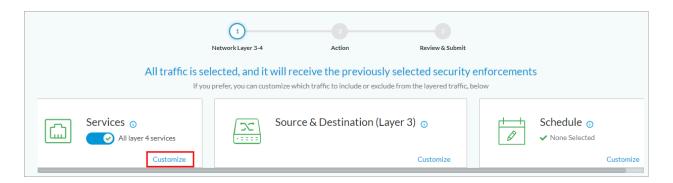


- 8. In the URL Categories field, click the down arrow, and then select one or more URL categories for the rule to match.
- 9. In the Reputations field, click the down arrow, and then select one or more reputations for the rule to match:
 - High risk
 - · Low risk
 - Moderate risk
 - Suspicious
 - Trustworthy

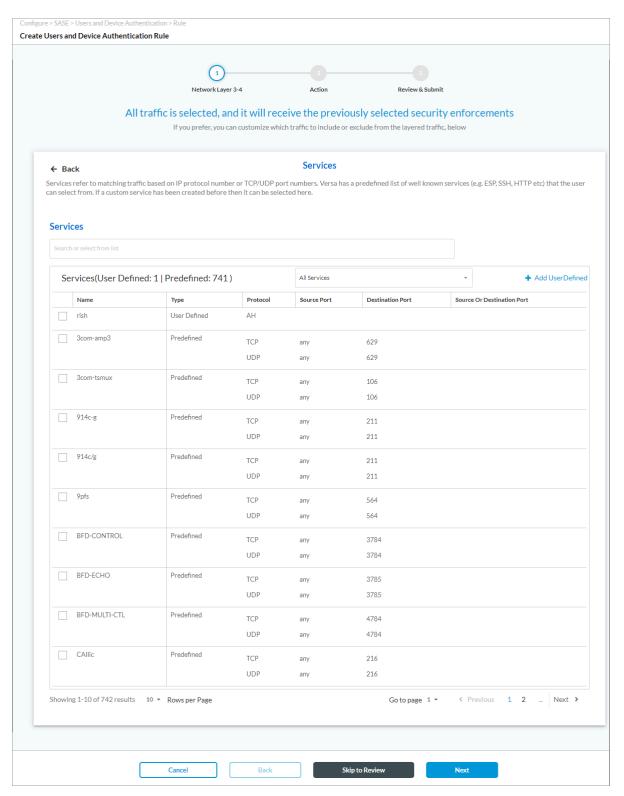
- Undefined
- 10. Click Next.
- 11. In Step 1, Network Layer 3-4 (for Release 11.4.1) or in Step 2, Network Layer 3-4 (for Releases 12.1.1 and later), you can customize the Layer 4 services, Layer 3 source and destination information, and schedules to which the previously selected security enforcements should apply. By default, all traffic receives the previously selected security enforcements.



12. To customize the Layer 4 services, click Customize in the Services pane.

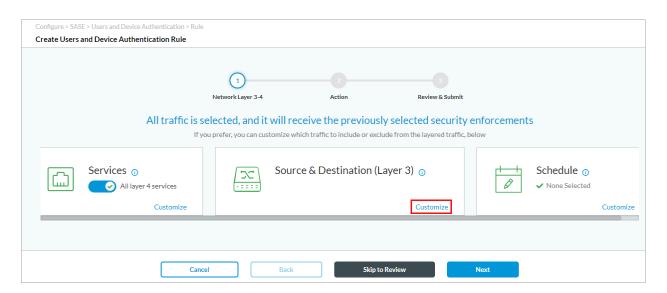


The Services window displays.

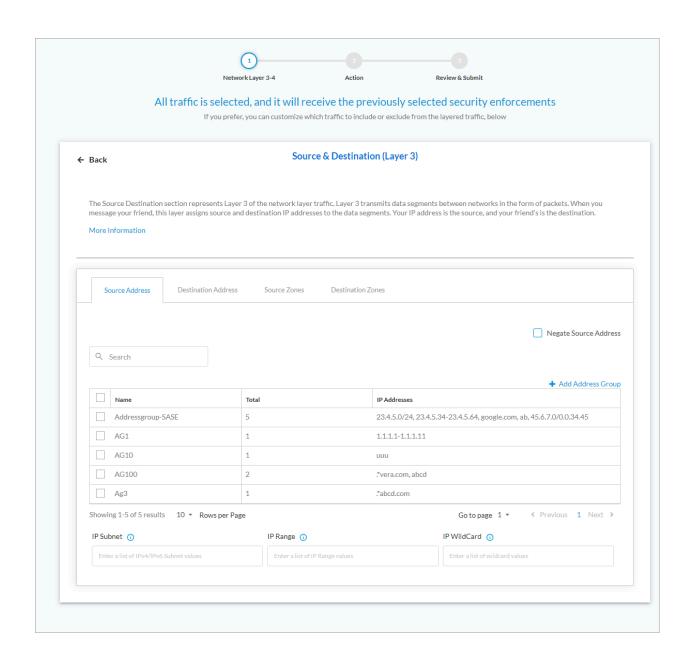


- 13. To find a service, enter the name of the service in the Services field, and then press Enter, or click All Services and then select User-defined Services or Predefined Services to filter the list of service objects.
- 14. To add a custom service object, click + Add User-Defined. The Service window displays. For more information, see <u>Configure SASE Services</u>.

15. To customize the source and destination information for a rule, in Network Layer 3-4 screen, click Customize in the Source and Destination Layer box.

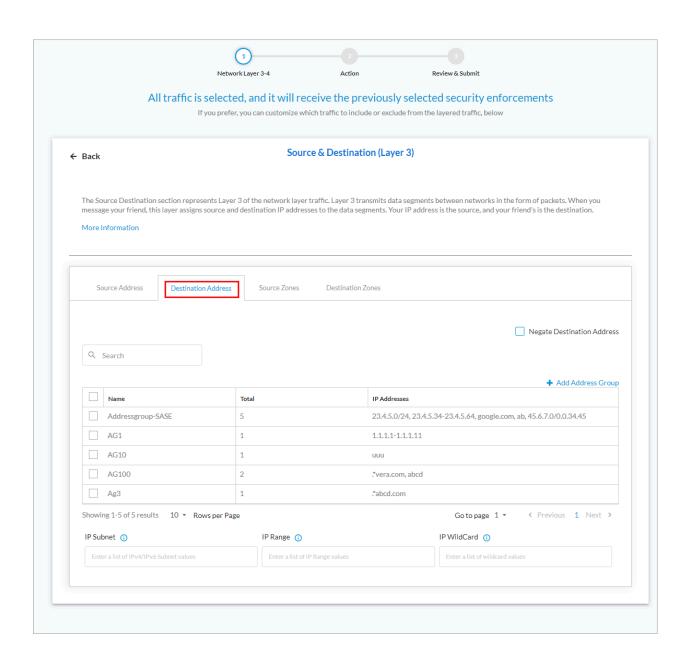


16. The Source and Destination (Layer 3) window displays. Select the Source Address tab, and then enter information for the following fields.



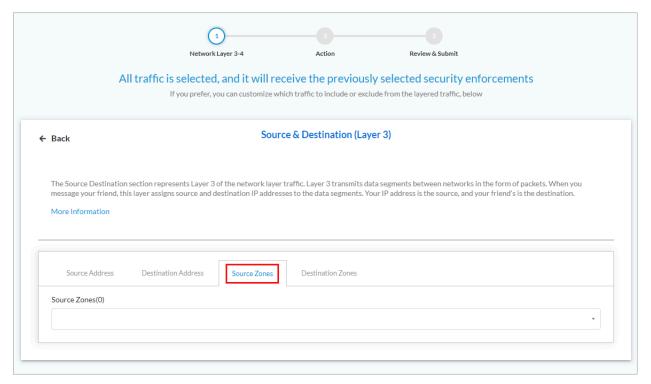
Field	Description
Negate Source Address	Click to match any source addresses except the configured addresses.
Address Group	Select an address group to match. To add a source address group, click + Add Address Group. The Address Group screen displays. For more information, see Configure Address Group Objects.
IP Subnet	Enter an IPv4 or IPv6 subnet.
IP Range	Enter an IP address range.
IP Wildcard	Enter a list of wildcard IP addresses.

17. Select the Destination Address tab, and then enter information for the following fields.

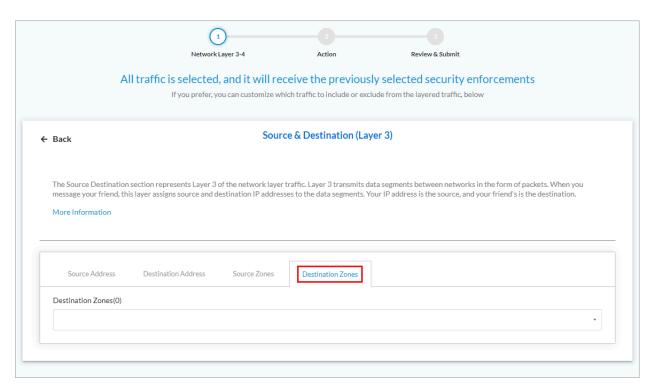


Field	Description
Negate Destination Address	Click to match any destination addresses except the configured addresses.
Address Group	Select an address group to match. To add a source address group, click + Add Address Group. The Address Group screen displays. For more information, see Configure Address Group Objects.
IP Subnet	Enter an IPv4 or IPv6 subnet.
IP Range	Enter an IP address range.
IP Wildcard	Enter a list of wildcard IP addresses.

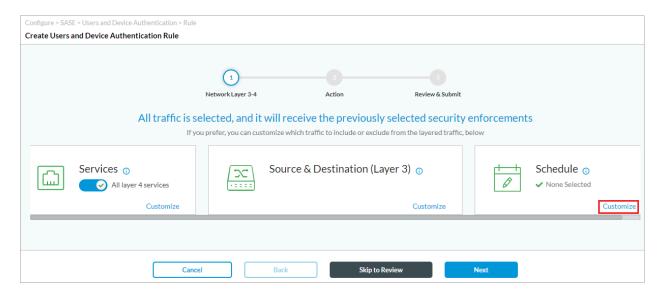
18. Select the Source Zone tab, the and select the user source zone for which to create authentication rule. You must configure a source zone.



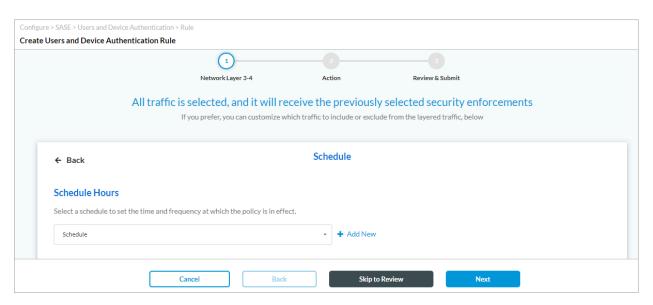
19. Select the Destination Zone tab, and then select the user destination zone for which to create authentication rule.



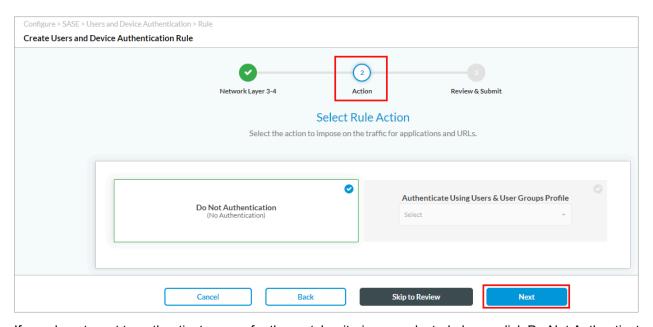
20. To customize the schedule for when the rule is in effect, in Network Layer 3-4 screen, click Customize in the Schedule box.



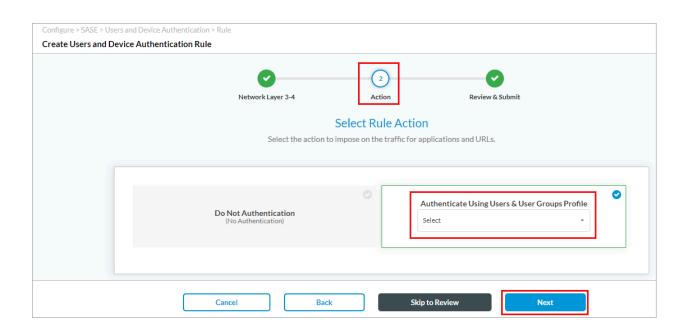
The Schedule window displays.



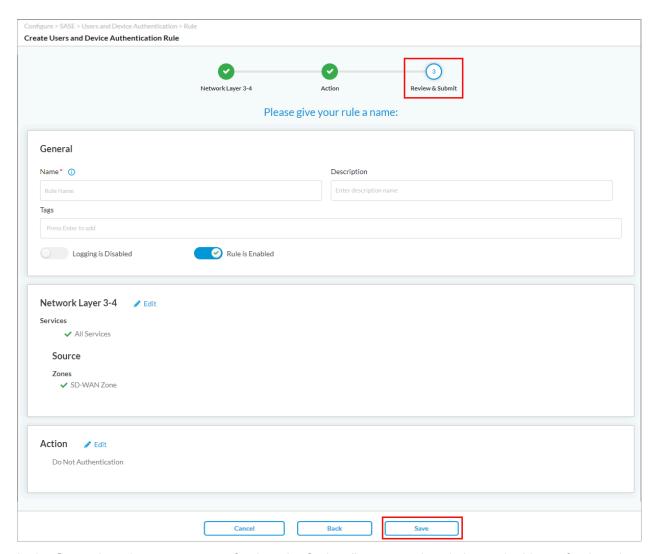
- 21. Select a schedule object to set the time and frequency when the rule to take effect.
- 22. Click + Add New to add a new schedule. The Schedule window displays. For more information, see Configure SASE Schedules.
- 23. Click Next. The Step 2, Action (for Release 11.4.1) or Step 3, Action (for Releases 12.1.1 and later) displays.



- 24. If you do not want to authenticate users for the match criteria you selected above, click Do Not Authenticate.
- 25. If you want to use a profile to specify the authentication type, click Authenticate Using User and Group Profile, and then select a profile that you configured in <u>Configure User and Device Authentication Profiles</u>, below.



26. Click Next. The Step 3, Review and Submit (for Release 11.4.1) or Step 4, Review and Submit (for Releases 12.1.1 and later) displays.



- 27. In the General section enter a name for the rule. Optionally, enter a description and add tags for the rule.
- 28. To enable logging for the rule, slide the toggle to Enabled.
- 29. The rule is enabled by default. Slide the Rule is Enabled toggle to disable the rule.
- 30. Click Edit next to any section to make changes.
- 31. Click Save.

Configure User and Device Authentication Profiles

To specify the authentication type for user authentication, you configure user and device authentication profiles. For each enterprise, you can configure profiles for Lightweight Directory Access Protocol (LDAP), RADIUS, Security Assertion Markup Language (SAML), and Versa Directory. For Releases 12.1.1 and later, you can also configure user and device certificate-based profiles. You can configure both an LDAP and a SAML profile for an enterprise, but for RADIUS and Versa Directory profiles types, you can configure only one per enterprise. You can configure user and device certificate-based profiles with each other, or with LDAP or SAML authentication profiles.

LDAP is a client–server protocol that allows a network device to access an LDAP server, which provides directory services that store descriptive attribute-based information. When an end user sends a request to access a webpage, the Versa Operating SystemTM (VOSTM) device accesses the LDAP server to validate the user. Based on the authentication result, the user is either authenticated or their authentication request is denied. You can configure either a user-based or group-based policy to allow or deny traffic.

RADIUS is a distributed client–server system that secures networks against unauthorized access. A RADIUS server provides an external database that you can use to authenticate users before allowing them to access a network, a device, or related services.

SAML authenticates users so that they can access multiple services and applications. SAML is useful when you want to access multiple services or applications and have authentication for each service or application, for example, Google and its related services. SAML is a common standard for exchanging authentication between parties and is most commonly used for web browser-based single sign-on (SSO).

With Versa directory authentication, you upload lists of users and groups for authentication purposes. You can also add individual users and groups using the GUI.

Certificate-based authentication is a secure method to validate the identity of users and devices. For Releases 12.1.1 and later, Versa SASE supports user and device certificate-based authentication. When you enable certificate-based authentication, the gateway initiates a request to the SASE client for users to provide their certificates during client portal registration and gateway connection.

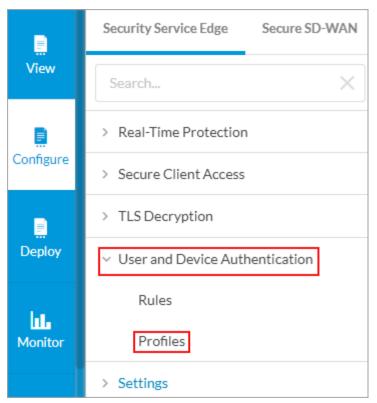
Note: You must configure the following SASE rules, profiles, and settings in a specific order:

- 1. Configure users and groups, and them publish them to the gateway, as described in this article.
- 2. Configure site-to-site tunnels. For more information, see Configure SASE Site-to-Site Tunnels.
- 3. Configure secure client access profiles and rules. For more information, see <u>Configure SASE Secure Client Access Rules</u>.

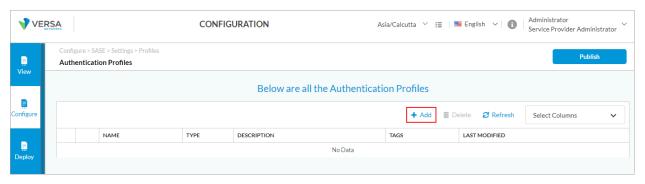
You do not need to configure the remaining SASE rules, profiles, and settings in a specific order.

To configure user and device authentication profiles:

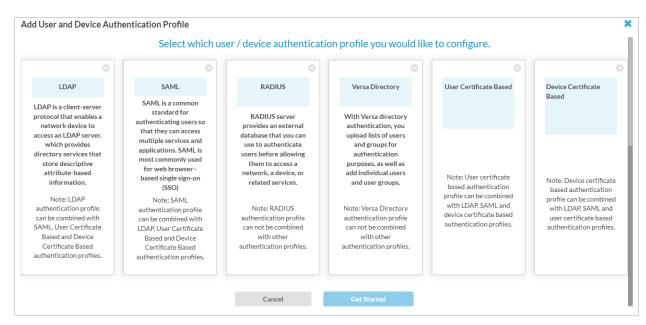
1. Go to Configure > Security Service Edge > User and Device Authentication > Profiles.



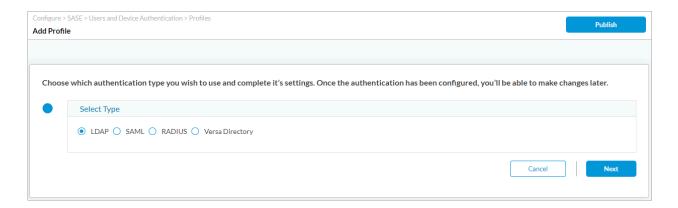
The Authentication Profiles screen displays.



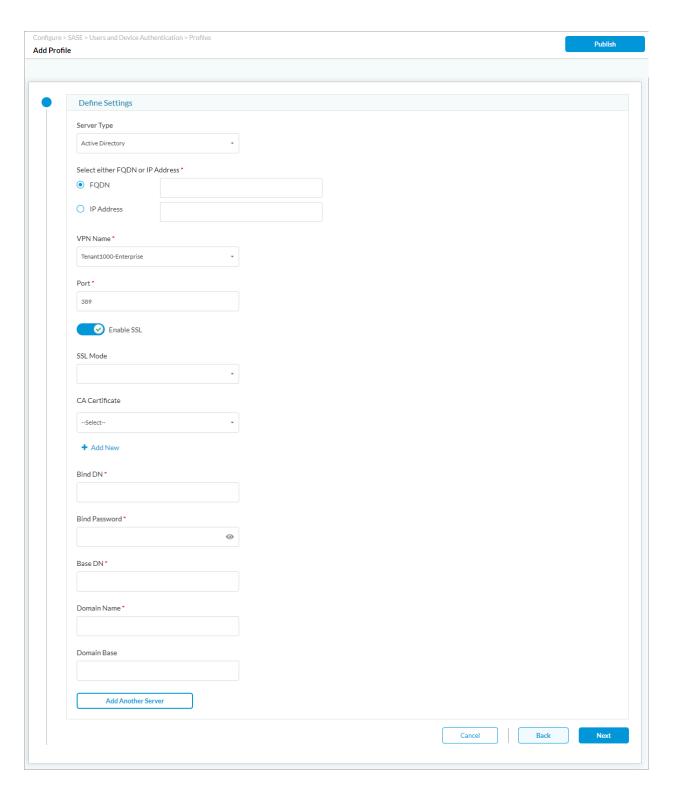
- 2. To create a new profile, click + Add.
 - For Releases 12.1.1 and later, the Add User and Device Authentication Profile screen displays.



For Releases 11.4.1 and earlier, the Add Profile screen displays.



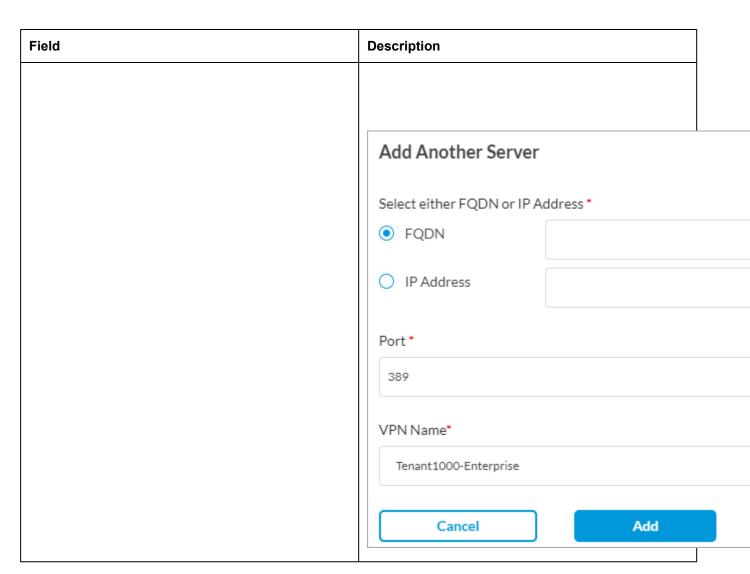
- 3. Select the type of authentication to configure:
 - (For Releases 12.1.1 and later.) Select one of the following options: Device Certificate Based, LDAP,
 RADIUS, SAML, User Certificate Based, or Versa Directory.
 - (For Releases 11.4.1 and earlier.) In the Select Type field, click one of the following options: LDAP, RADIUS, SAML, or Versa Directory.
- 4. Click Next (or Get Started for Releases 12.1.1 and later).
- 5. For the LDAP authentication type, the following screen displays. Enter information for the following fields.



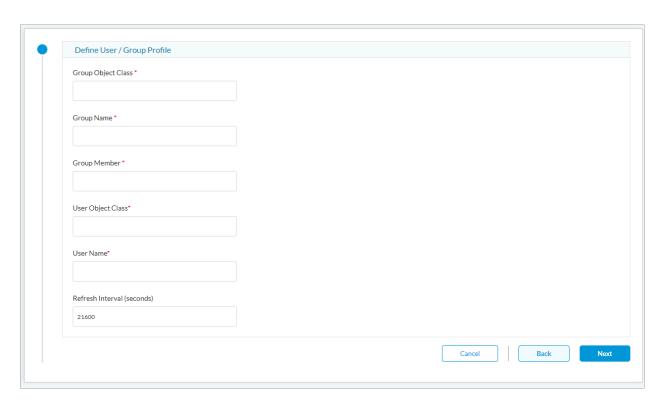
Field	Description
Server Type	Select the server type:

Field	Description
	Active DirectoryOpen LDAP
Select Either FQDN or IP Address	Click FQDN or IP Address, and then enter the FQDN or IP address of the Active Directory or LDAP server.
VPN Name	Select the name of the tenant VPN to use to reach the LDAP server.
Port	Enter the listening port number on the LDAP server, which allows you to communicate with the LDAP directory service. Range: 0 through 65535 Default: None
Enable SSL	Click the slider to enable SSL for the LDAP session. Enable SSL Click the slider again to disable SSL for the LDAP session. Enable SSL
SSL Mode	If you enable SSL, select the SSL mode for the LDAP session: LDAPS—Use secure LDAP (LDAP over SSL) STARTTLS—Use LDAP over TLS
CA Certificate	If you enable SSL, select the CA certificate to use for the secure LDAP connection. To add a new CA

Field	Description
	certificate, click + Add New, and the enter the required information.
	Add CA Certificate
	Certificate Type Ca Chain
	Allowed file formats are .crt, .cer or .pem
	CA-Chain Name *
	Upload File Cancel Add
Bind DN	Enter the bind distinguished name (DN) to use when logging in to the LDAP server.
Bind Password	Enter the password that the bind DN uses when logging in to the LDAP server.
Base DN	Enter the base distinguished name DN to use when an LDAP client initiates a search.
Domain Name	Enter the domain name to use for LDAP searches, for example, versa-networks.com.
Domain Base	Enter the name of the base domain.
Add Another Server	Click to add another server of the same type. In the Add Another Server popup window, enter the required information, and then click Add.



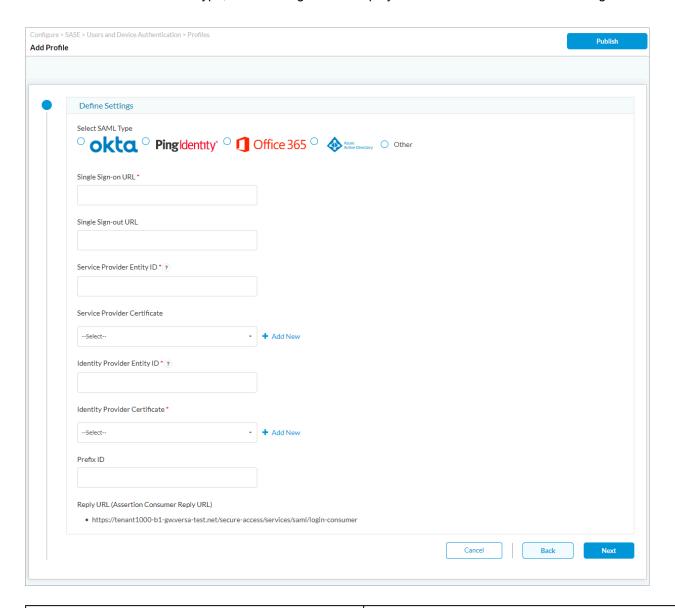
- 6. Click Next.
- 7. The Define User/Group Profile screen displays. Enter information for the following fields.



Field	Description
Group Object Class (Required)	Enter the group object class provided by your administrator.
Group Name (Required)	Enter the group name provided by your administrator.
Group Member (Required)	Enter the group member provided by your administrator.
User Object Class (Required)	Enter the user object class provided by your administrator.
User Name (Required)	Enter the format of the username, for example, User Principal Name.
Refresh Interval	Enter how often to refresh the LDAP profile information, in seconds. Range: 60 through 86400 seconds Default: 21600 seconds

8. Click Next. The Provide Information screen displays. This screen is common for all authentication types. Enter the required information, as described in Step 16.

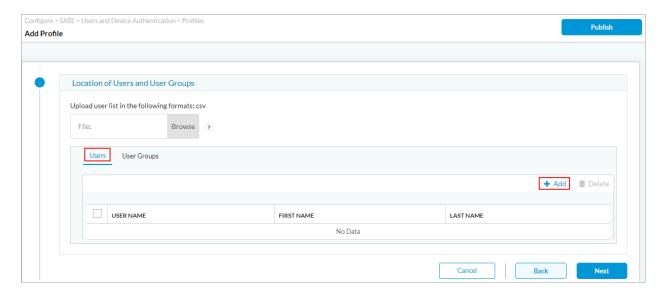
9. For the SAML authentication type, the following screen displays. Enter information for the following fields.



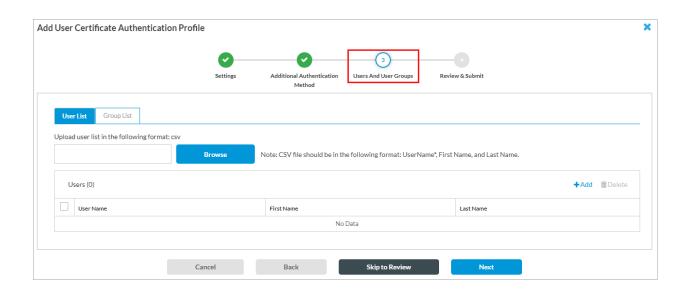
Field	Description
Select SAML Type	Select the SAML type: Azure Active Directory Office 365 Okta Other Pingldentity
Single Sign-on URL (Required)	Enter the URL of the identify provider (IdP) to use for

Field	Description
	single sign-on.
Single Sign-out URL	Enter the URL to point to for single sign-out.
Service Provider Entity ID (Required)	Enter the entity ID of the service provider.
Service Provider Certificate	Select the certificate that the service provider uses to authenticate.
Identity Provider Entity ID (Required)	Enter the entity ID that uniquely identifies the SAML IdP.
Identity Provider Certificate (Required)	Select the authentication certificate issued by the IdP.
Prefix ID	Enter the name of the external IdP.
Reply URL (Assertion Consumer Reply URL)	Enter the assertion consumer reply URL from which the application receives the authentication token. SAML also refers to this to as the Assertion Consumer Service (ACS).

10. Click Next. The Location of Users and User Groups screen displays. Enter information for the following fields.



For Releases 12.1.1 and later, the following screen displays.

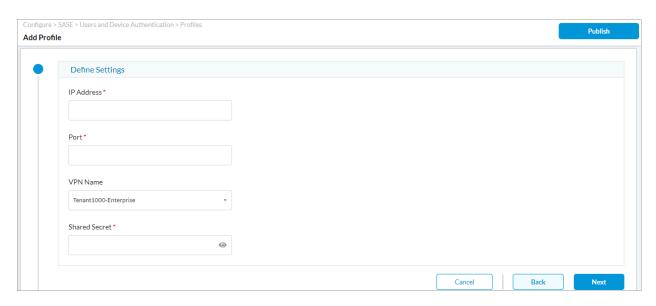


Field	Description
	If you select the Users tab in the Define Settings section, click File: Browse. In the popup window, select a user list file in CSV format to upload. Each line in the CSV file must be in the following format: • User Name*, First Name, Last Name, Password*, Email*, Phone, Description, Group Name. (Note that fields marked with an asterisk (*) are mandatory.)
Upload user list in the following formats: csv	Define Settings Upload user list in the following formats: csv File: Browse ?
Users tab	Click + Add to add a new user. In the Add User screen, enter the required information. When you select LDAP or SAML as the authentication type, the following screen displays:

	Add User ×
	User Name*
	First Name
	Last Name
	Cancel Add
	For Versa Directory, the following screen displays
	when you click + Add to add a user:
	Add User User Name(Email)*
	First Name Last Name
	Phone Number
	Description Group Name + Add New
	Cancel Add
	Click + Add New to add a new user group, as shown below in the User Groups tab.
Upload group list in the following formats: csv	If you select the User Groups tab in the Define

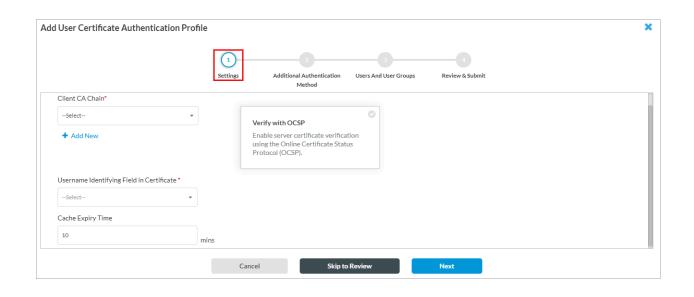
	Settings section, click File: Browse. In the popup window, select a user group file in CSV format to upload. Each line in the CSV file must be in the following format: • Group Name*, Description
	Define Settings Upload group list in the following formats: csv File: Browse ?
User Groups tab	Click + Add to add a new user group. In the Add User Group screen, enter the required information.
	Add User Group Name*
	Description Cancel Add

- 11. Click Next. The Provide Information screen displays. This screen is common for all authentication types. Enter the information as described in Step 16.
- 12. If you select RADIUS as the authentication type, the following screen displays. Enter information for the following fields.



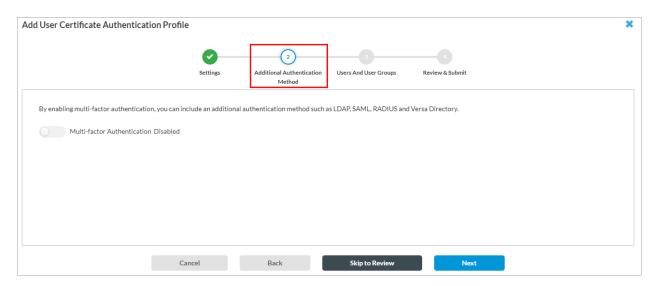
Field	Description
IP Address (Required)	Enter the IP address of the RADIUS server.
Port (Required)	Enter the port number to use on the RADIUS server.
VPN Name	Select the VPN instance to use to connect to the RADIUS server.
Shared Secret	Enter the RADIUS shared secret (password) string.

- 13. Click Next. The Location of Users and User Groups screen displays. Enter the information as described in Step 10.
- 14. Click Next. The Provide Information screen displays. This screen is common for all authentication types. Enter the information as described in Step 16.
- 15. If you select Versa Directory as the authentication type, the Location of Users and User Groups screen displays. Enter the information as described in Step 10.
- 16. (For Releases 12.1.1 and later.) If you select User Certificate Based as the authentication type, the Add User Certificate Authentication Type screen displays. In the Settings screen, enter information for the following fields.

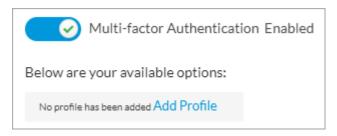


Field	Description	
Client CA Chain (Required)	Select the client CA certificate chain to authenticate the user. To add a new CA certificate, click + Add New. The Add CA Certificate window displays. For more information, see Configure SASE Certificates.	
Username Identifying field in Certificate (Required)	Select the field that Concerto uses to validate a name match in the client certificate: Subject-Alternative-name Email Subject Alternative-name Principal Name Subject Common-name 	
Cache Expiry Time	Enter the time in minutes after which the cache expires. Default: 10 minutes	
Verify with OSCP	Click to enable verification of server certificate using Online Certificate Status Protocol (OCSP). The following fields display:	
	Vorification OCSD	A ser Yes
	Yes is selected by default and if you select Yes, Concerto uses the CA server on the internet for OCSP verification. If you select No, enter the VPN name to check for to server certificate.	

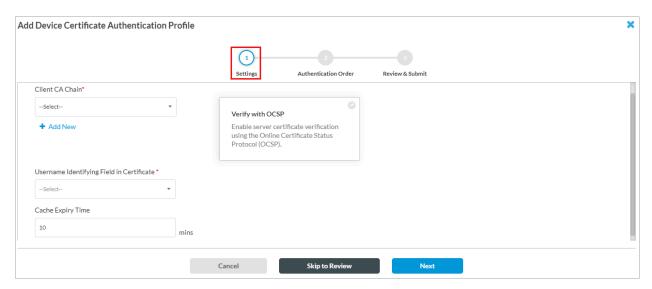
17. Click Next or select Step 2, Additional Authentication Method. The following screen displays.



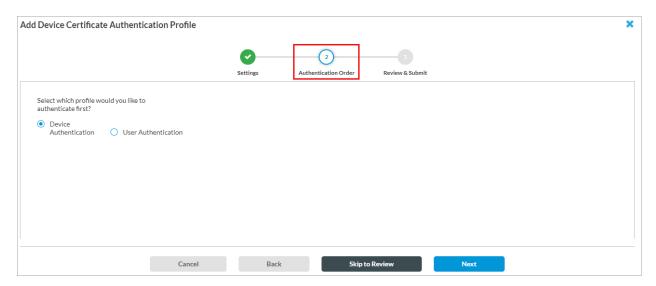
18. To enable multi-factor authentication using LDAP or SAML profiles, slide the Multi-factor Authentication Disabled toggle. This is disabled by default.



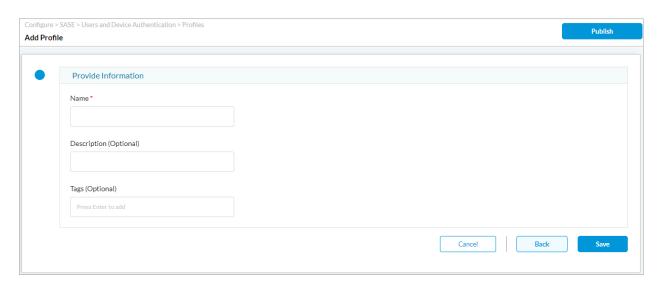
- 19. If LDAP and SAML profiles are configured, the profiles display.
- 20. Click Add Profile to add a profile. For adding LDAP profiles, follow Step 5 through 7 and for SAML profile, follow Steps 9 through 11.
- 21. Click Next. The Users and User Groups screen displays. Enter the information as described in Step 10.
- 22. (For Releases 12.1.1 and later.) If you select Device Certificate Based as the authentication type, the Add Device Certificate Authentication Type screen displays. In the Settings screen, enter information as described in Step 16.



23. Click Next or select Step 2, Authentication Order. The following screen displays.

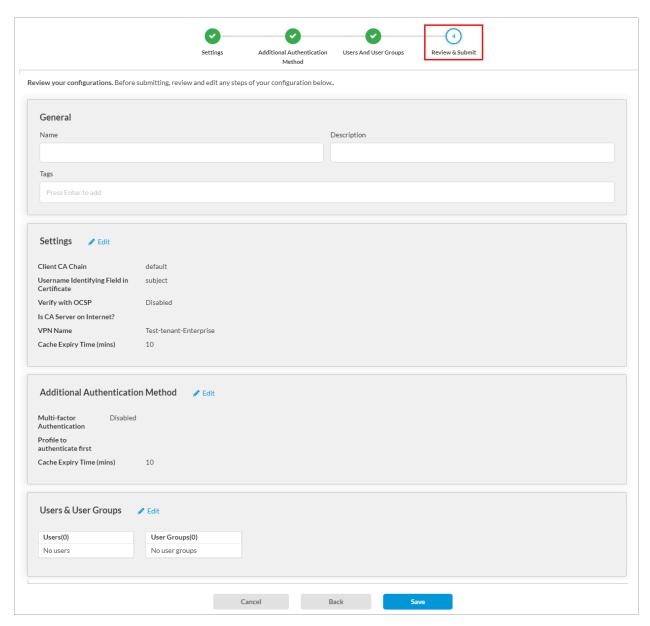


- 24. If you have configured a user certificate-based authentication profile, select Device Authentication or User Authentication to specify which profile to use first for authentication. Device Authentication is select by default.
- 25. (For Releases 11.4.1 and earlier.) Click Next. In the Provide information screen, enter information for the following fields



Field	Description
Name	Enter a name for the authentication profile, for example, ACME-SAML-Profile or ACME-LDAP-Profile.
Description	Enter a text description for the text authentication profile.
Tags	Enter tags to associate with the authentication profile.

- 26. Click Save.
- 27. (For Releases 12.1.1.) Click Next. The Review and Submit screen displays. This screen is common for all authentication types.

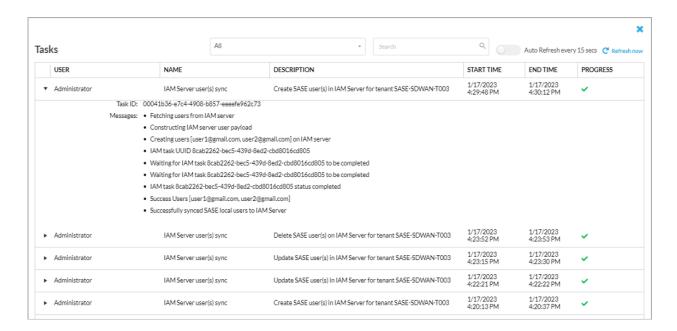


- 28. In the General box, enter a name for the rule, and optionally, enter a text description for the rule and one or more tags.
- 29. Review the selected settings. Click the PEdit icon to change a setting, as needed.
- 30. Click Save to create the authentication profile.

Configure Versa Directory Authentication Using an IAM Server

You can use an identity and access management (IAM) server to store local-user data and to send activation emails to local users. Concerto uses the users and groups profile to store user data and then uses IAM user APIs to store user data on the IAM server. IAM user API calls are asynchronous. You can track these calls in the Concerto Tasks screen,

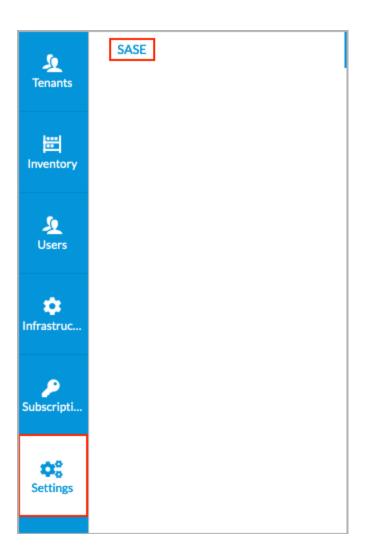
which opens after you complete and save the User and Groups configuration screen.



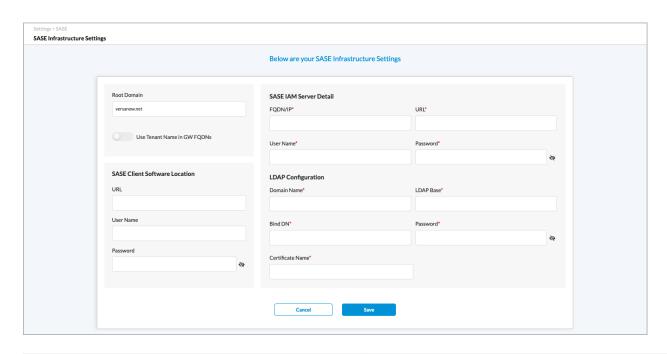
Note: Only newly created Users and Groups profiles use the IAM server.

To configure SASE IAM server information:

- 1. Log in as a service provider system administrator.
- 2. Go to Settings > SASE.



3. In the SASE Infrastructure Settings screen, enter information for the following fields.



Field	Description
Root Domain	Enter the root domain, for example, versanow.net.
Use Tenant Name in GW FQDNs	Click the slider to use the tenant name in the SASE gateway FQDNs.
	Use Tenant Name in GW FQDNs
SASE IAM Server Detail (Group of Fields)	
• FQDN/IP	Enter the FQDN of the SASE IAM server.
• URL	Enter the URL of the SASE IAM server.
∘ Username	Enter the username to use for the SASE IAM server.
∘ Password	Enter the password to use for the SASE IAM server.
SASE Client Software Location (Group of Fields)	
• URL	Enter the URL where the SASE client software is

Field	Description
	located.
∘ Username	Enter the username to use to access the SASE client software location.
∘ Password	Enter the password to use to access the SASE client software location.
LDAP Configuration (Group of Fields)	
Domain Name	Enter the LDAP domain name.
∘ LDAP Base	Enter the LDAP base domain name.
Bind DN	Enter the bind distinguished name (DN) to use when logging in to the LDAP server.
∘ Password	Enter the password that the bind DN uses when logging in to the LDAP server.
Certification Name	Enter the name of the certificate to use for the LDAP connection.

4. Click Save.

Supported Software Information

Releases 11.4.1 and later support all content described in this article, except:

• Release 12.1.1 adds support for device certificate and user certificate-based authentication profiles.

Additional Information

Configure SASE User-Defined Objects
Configure User and Device Authentication