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AWS SAML Implementation

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AWS SAML Implementation

This article contains **AWS IAM Identity Center-specific** help for configuring login with SSO via SAML 2.0. For help configuring login with SSO for another IdP, refer to SAML 2.0 Configuration.

Configuration involves working simultaneously within the Bitwarden web app and the AWS Console. As you proceed, we recommend having both readily available and completing steps in the order they are documented.

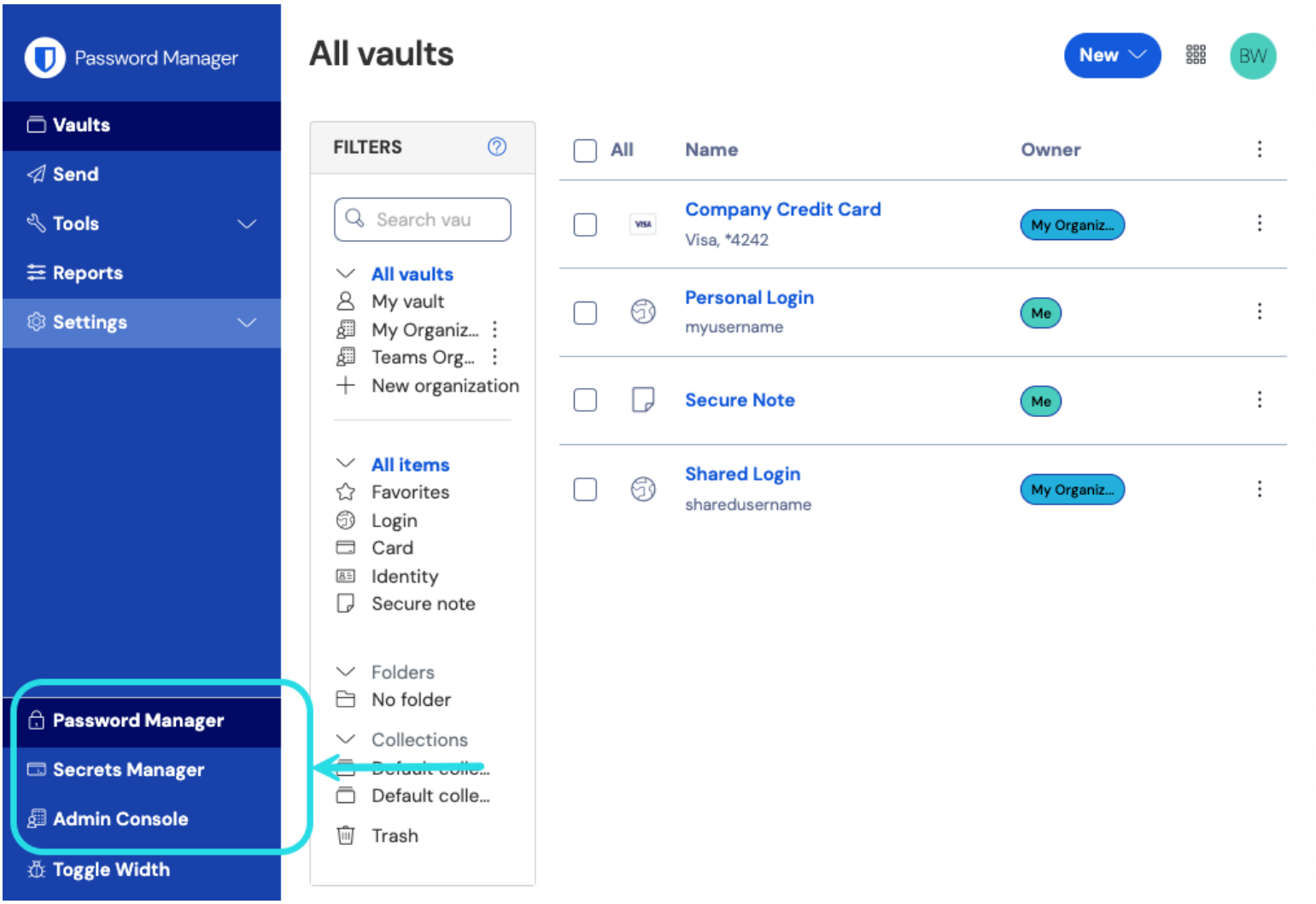
Tip

Already an SSO expert? Skip the instructions in this article and download screenshots of sample configurations to compare against your own.

Download Sample

Open SSO in the web app

Log in to the Bitwarden web app and open the Admin Console using the product switcher:



Product switcher

Open your organization's **Settings** → **Single sign-on** screen:

SAML 2.0 configuration

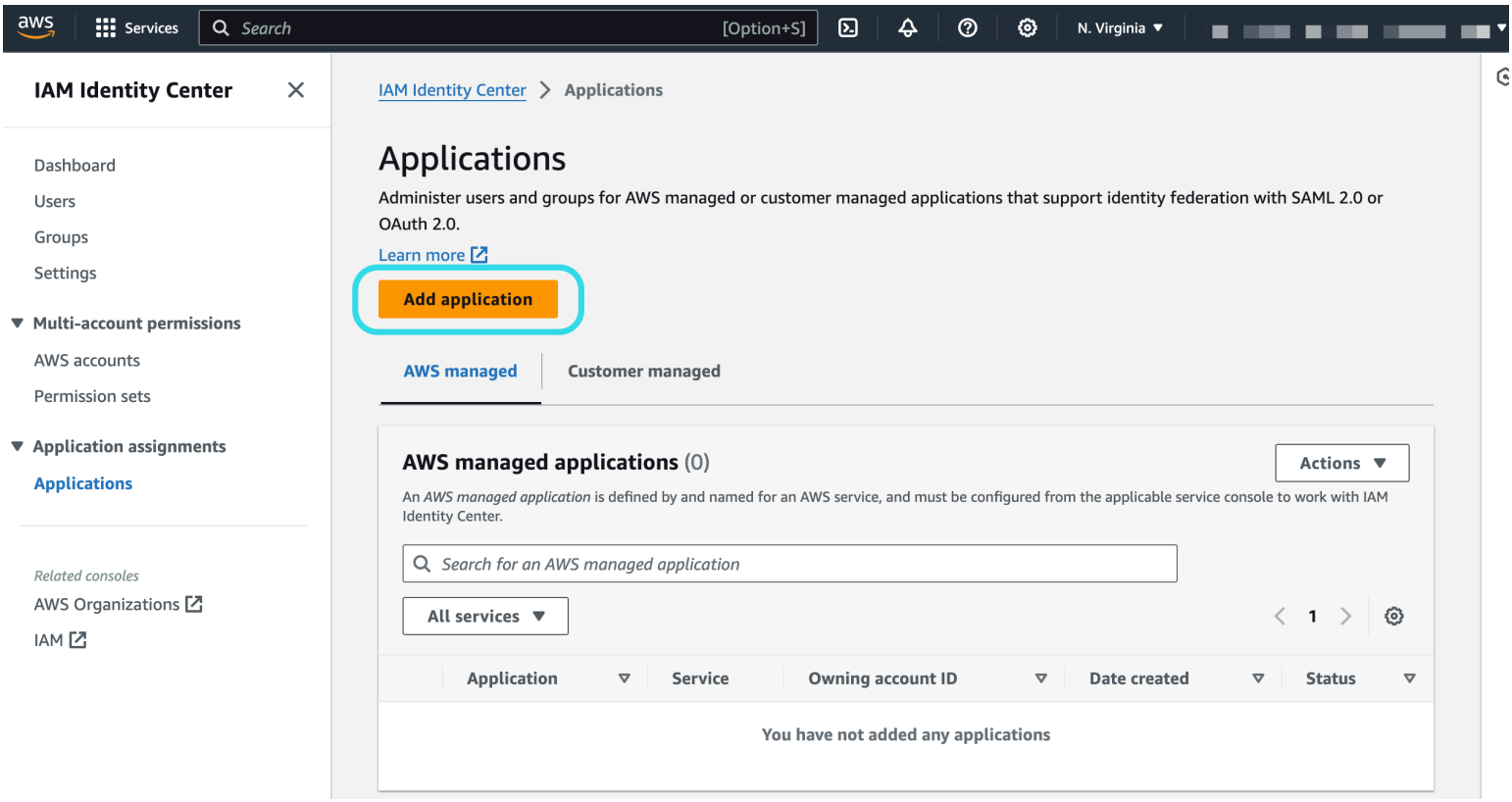
If you haven't already, create a unique **SSO identifier** for your organization and select **SAML** from the the **Type** dropdown. Keep this screen open for easy reference.

You can turn off the **Set a unique SP entity ID** option at this stage if you wish. Doing so will remove your organization ID from your SP entity ID value, however in almost all cases it is recommended to leave this option on.

> **Tip**
>
> There are alternative **Member decryption options**. Learn how to get started using SSO with trusted devices or Key Connector.

Create an application

In the AWS Console, navigate to **IAM Identity Center**, select **Application assignments** → **Applications** from the navigation, and select the **Add application** button:



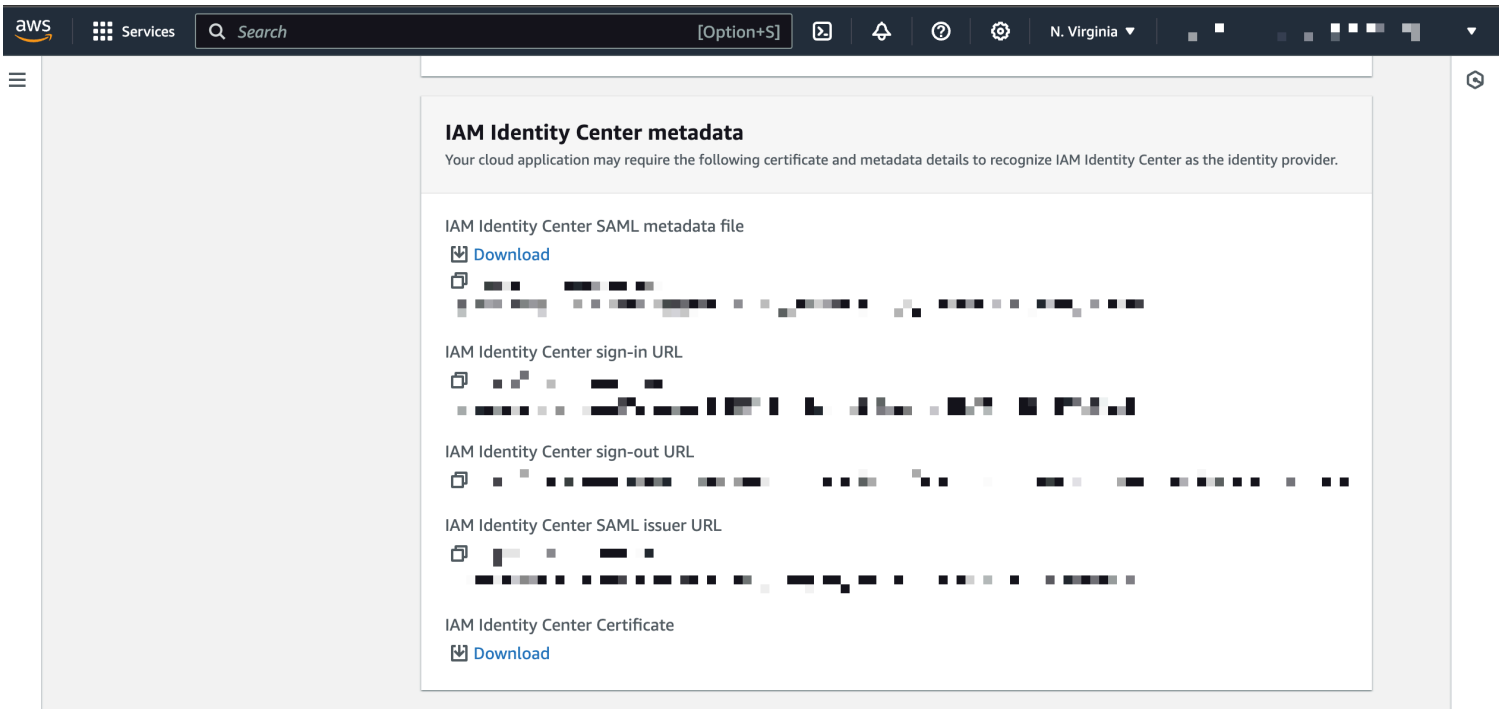
Add a new application

On the Select application type screen, select **I have an application I want to set up** and **SAML 2.0.**

Configure application

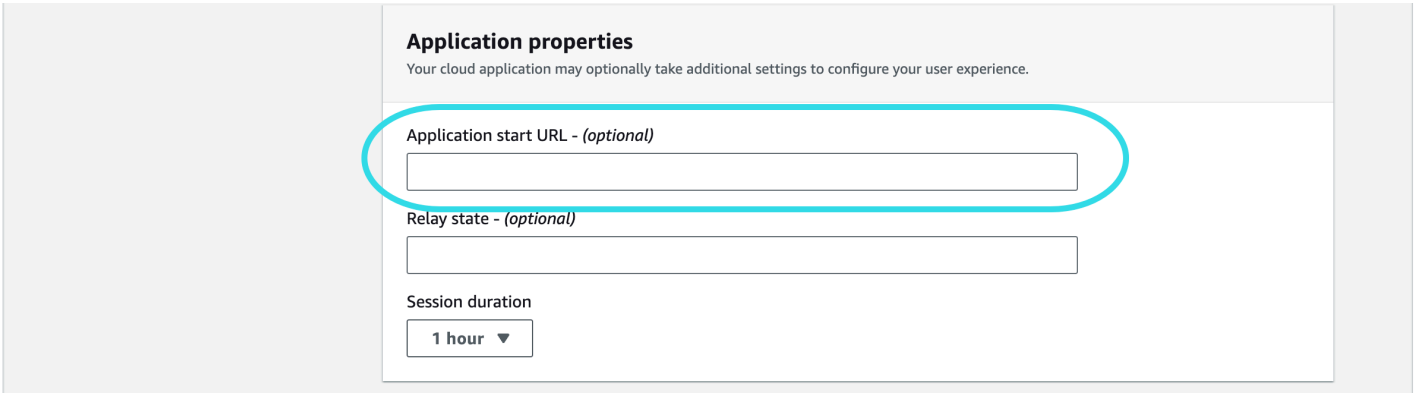
On the Configure application screen:

1. Give the application a unique, Bitwarden-specific **Display name**.
2. Copy the **IAM Identity Center sign-in URL** and **IAM Identity Center issuer URL**, and download the **IAM Identity Center Certificate**:



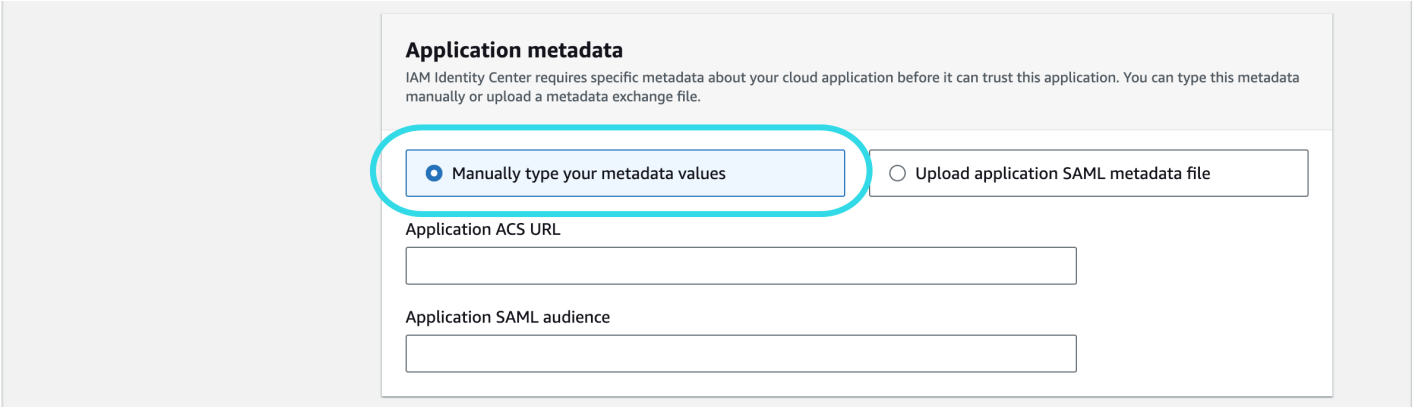
IAM Identity Center metadata

3. In the **Application start URL** field, specify the login URL from which users will access Bitwarden. For cloud-hosted customers, this is always `https://vault.bitwarden.com/#/sso` or `https://vault.bitwarden.eu/#/sso`. For self-hosted instances, this is determined by your configured server URL, for example `https://your.domain/#/sso`:



IAM Identity Center application properties

4. In the Application metadata section, select the option to **Manually type your metadata values**:



Enter metadata values

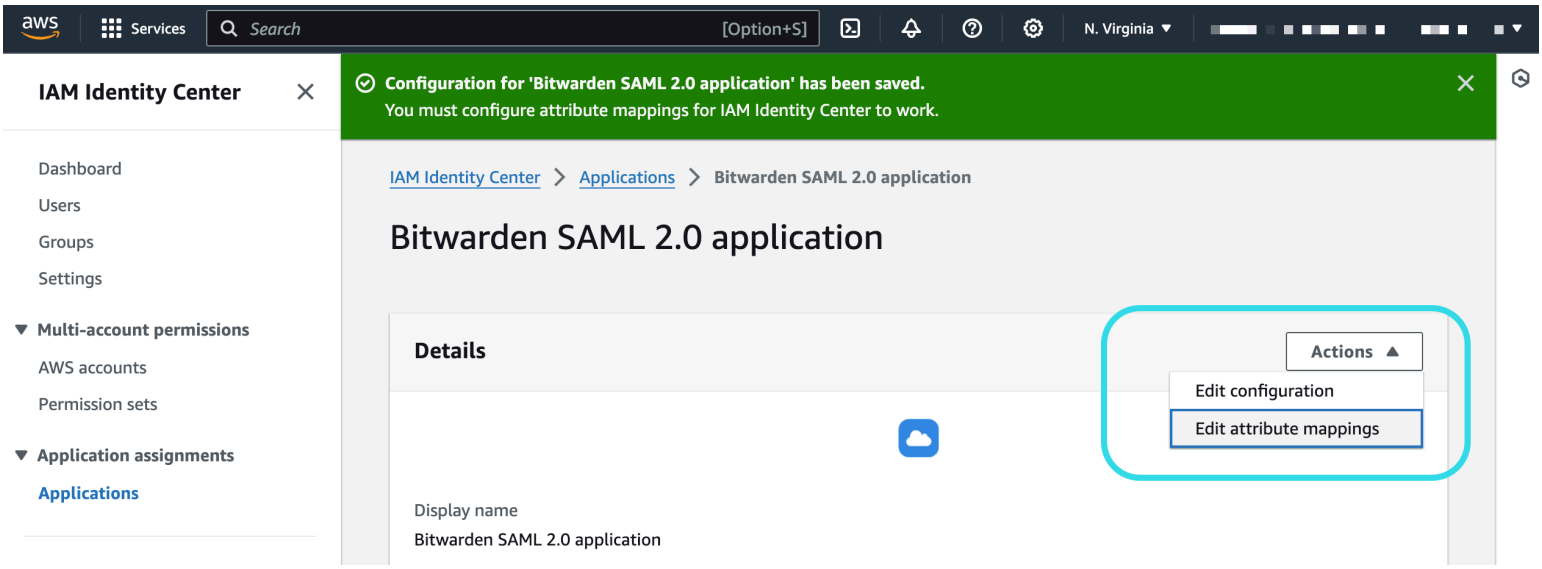
In that section, configure the following fields:

Field	Description
Application ACS URL	Set this field to the pre-generated **Assertion Consumer Service (ACS) URL**. This automatically-generated value can be copied from the organization's **Settings → Single sign-on** screen and will vary based on your setup.
Application SAML audience	Set this field to the pre-generated **SP Entity ID**. This automatically-generated value can be copied from the organization's **Settings → Single sign-on** screen and will vary based on your setup.

When you are finished, select **Submit**.

Attribute mappings

Once the application is created, open it again from the **Application assignments → Applications** screen. Use the **Actions** dropdown to **Edit attribute mappings**:



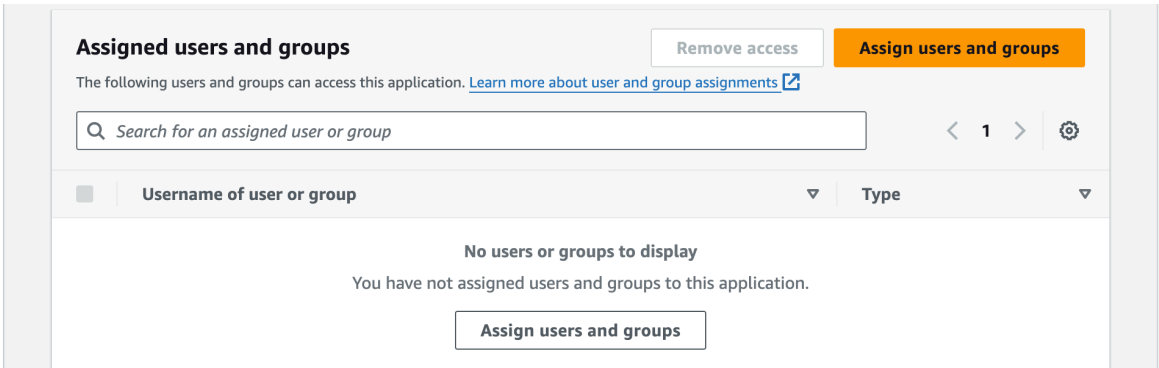
Edit attribute mappings

Configure the following mappings and **Save changes**:

User attribute in the application	Maps to this string value or user attribute in IAM Identity Center	Format
Subject	`${user:email}`	emailAddress
email	`${user:email}`	Unspecified

Assigned users

From your application, scroll down to the Assigned users and groups section and select the **Assign users and groups** button:



Assign users and groups

Assign users and groups to the application.

Back to the web app

At this point, you have configured everything you need within the context of the AWS Console. Return to the Bitwarden web app to complete configuration.

The Single sign-on screen separates configuration into two sections:

- **SAML service provider configuration** will determine the format of SAML requests.
- **SAML identity provider configuration** will determine the format to expect for SAML responses.

Service provider configuration

Service provider configuration should already be complete, however you may choose to edit any of the following fields:

Field	Description
Name ID Format	Set to **Email Address**.
Outbound Signing Algorithm	The algorithm Bitwarden will use to sign SAML requests.
Signing Behavior	Whether/when SAML requests will be signed.
Minimum Incoming Signing Algorithm	By default, IAM Identity Center will sign with SHA-256. Unless you have changed this, select `sha256` from the dropdown.
Want Assertions Signed	Whether Bitwarden expects SAML assertions to be signed.
Validate Certificates	Check this box when sing trusted and valid certificates from your IdP through a trusted CA. Self-signed certificates may fail unless proper trust chains are configured within the Bitwarden Login with SSO docker image.

When you are done with the service provider configuration, **Save** your work.

Identity provider configuration

Identity provider configuration will often require you to refer back to the AWS Console to retrieve application values:

Field	Description
Entity ID	Enter the IAM Identity Center **issuer URL**, retrieved from the IAM Identity Center metadata section for your application in the AWS Console. This field is case sensitive.
Binding Type	Set to **HTTP POST** or **Redirect**.
Single Sign On Service URL	Enter the IAM Identity Center **sign-in URL**, retrieved from the IAM Identity Center metadata section for your application in the AWS Console.
Single Log Out Service URL	Login with SSO currently **does not** support SLO. This option is planned for future development, however you may pre-configure it with the IAM Identity Center **sign-out URL** retrieved from the IAM Identity Center metadata section for your application in the AWS Console.

X509 Public Certificate	Paste the downloaded certificate, removing:
	`-----BEGIN CERTIFICATE-----`
	and
	`-----END CERTIFICATE-----`
	The certificate value is case sensitive, extra spaces, carriage returns, and other extraneous characters **will cause certificate validation to fail**.

Outbound Signing Algorithm	By default, IAM Identity Center will sign with `sha256`. Unless you have changed this, select `sha256` from the dropdown.
Disable Outbound Logout Requests	Login with SSO currently **does not** support SLO. This option is planned for future development.
Want Authentication Requests Signed	Whether IAM Identity Center expects SAML requests to be signed.

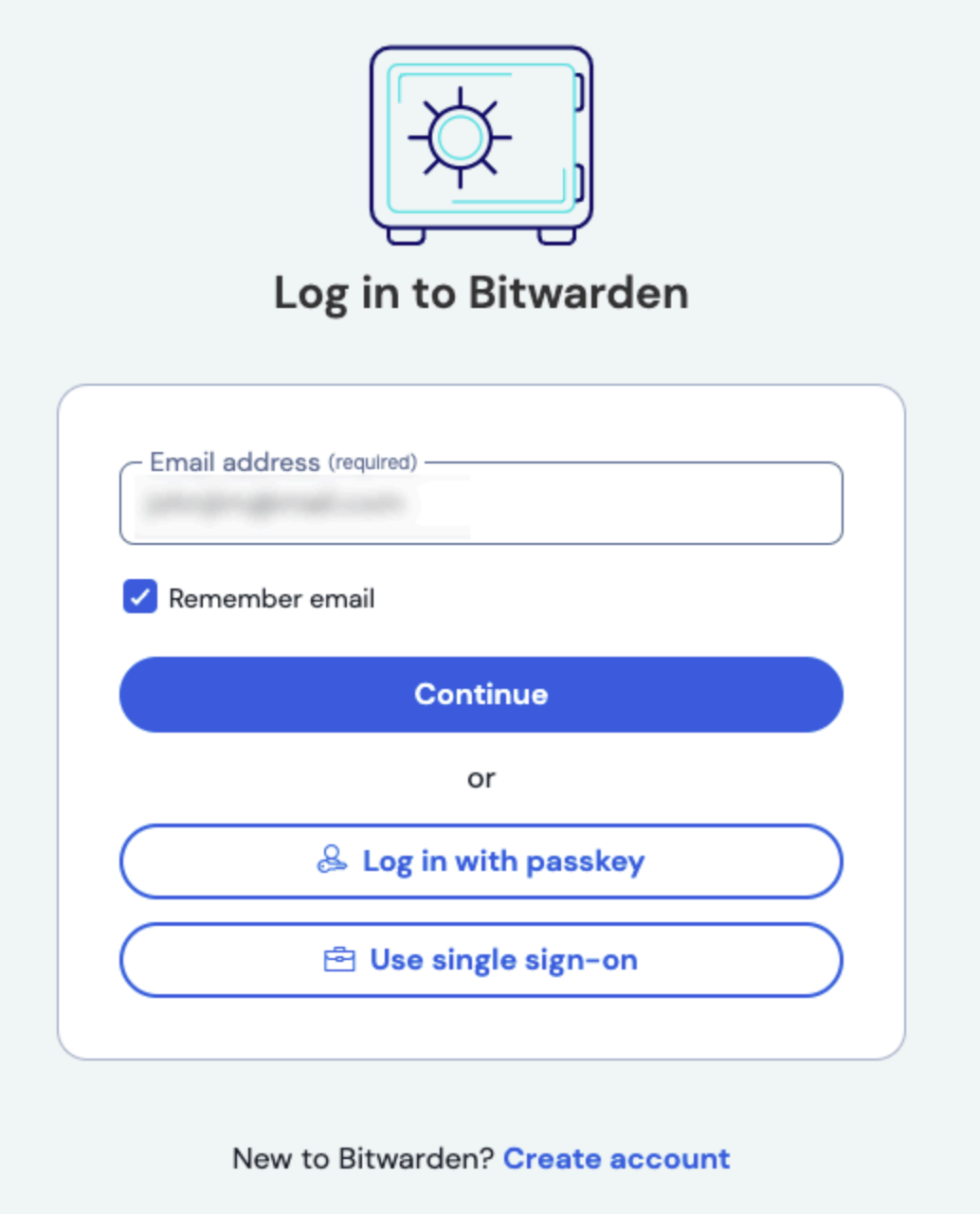
> **Note**
>
> When completing the X509 certificate, take note of the expiration date. Certificates will have to be renewed in order to prevent any disruptions in service to SSO end users. If a certificate has expired, Admin and Owner accounts will always be able to log in with email address and master password.

When you are done with the identity provider configuration, **Save** your work.

> **Tip**
>
> You can require users to log in with SSO by activating the single sign-on authentication policy. Please note, this will require activating the single organization policy as well. Learn more.

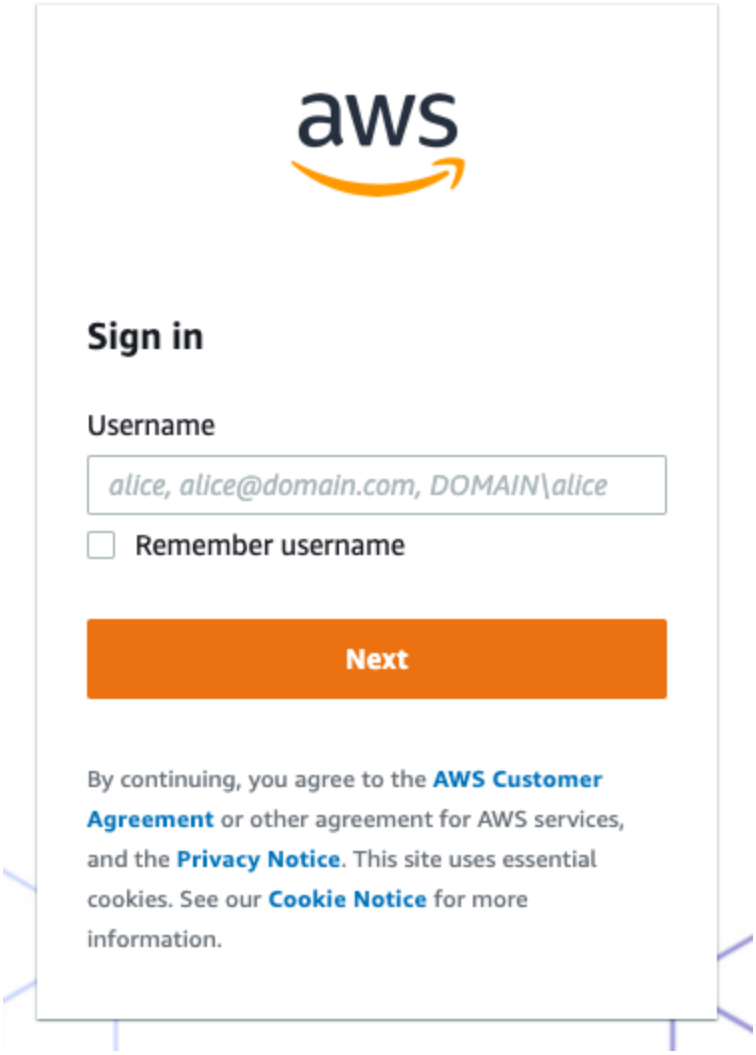
Test the configuration

Once your configuration is complete, test it by navigating to https://vault.bitwarden.com, entering your email address and selecting the **Use single sign-on** button:



Log in options screen

Enter the configured organization identifier and select **Log In**. If your implementation is successfully configured, you will be redirected to the IAM Identity Center login screen:



AWS login screen

After you authenticate with your IAM Identity Center credentials, enter your Bitwarden master password to decrypt your vault!

ⓘ Note

Bitwarden does not support unsolicited responses, so initiating login from your IdP will result in an error. The SSO login flow must be initiated from Bitwarden.