ComponentSpace SAML for ASP.NET ADFS Relying Party Integration Guide

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Introduction

This document describes integration of a service provider with Active Directory Federation Services.

The Microsoft terminology for a SAML service provider is a relying party.

Enabling IdP-Initiated SSO

Ensure IdP-initiated SSO is enabled in ADFS using the PowerShell cmdlets Get-AdfsProperties and Set-AdfsProperties.

```
Get-AdfsProperties | Select EnableIdpInitiatedSignonpage

Set-AdfsProperties –EnableIdpInitiatedSignonPage $True
```

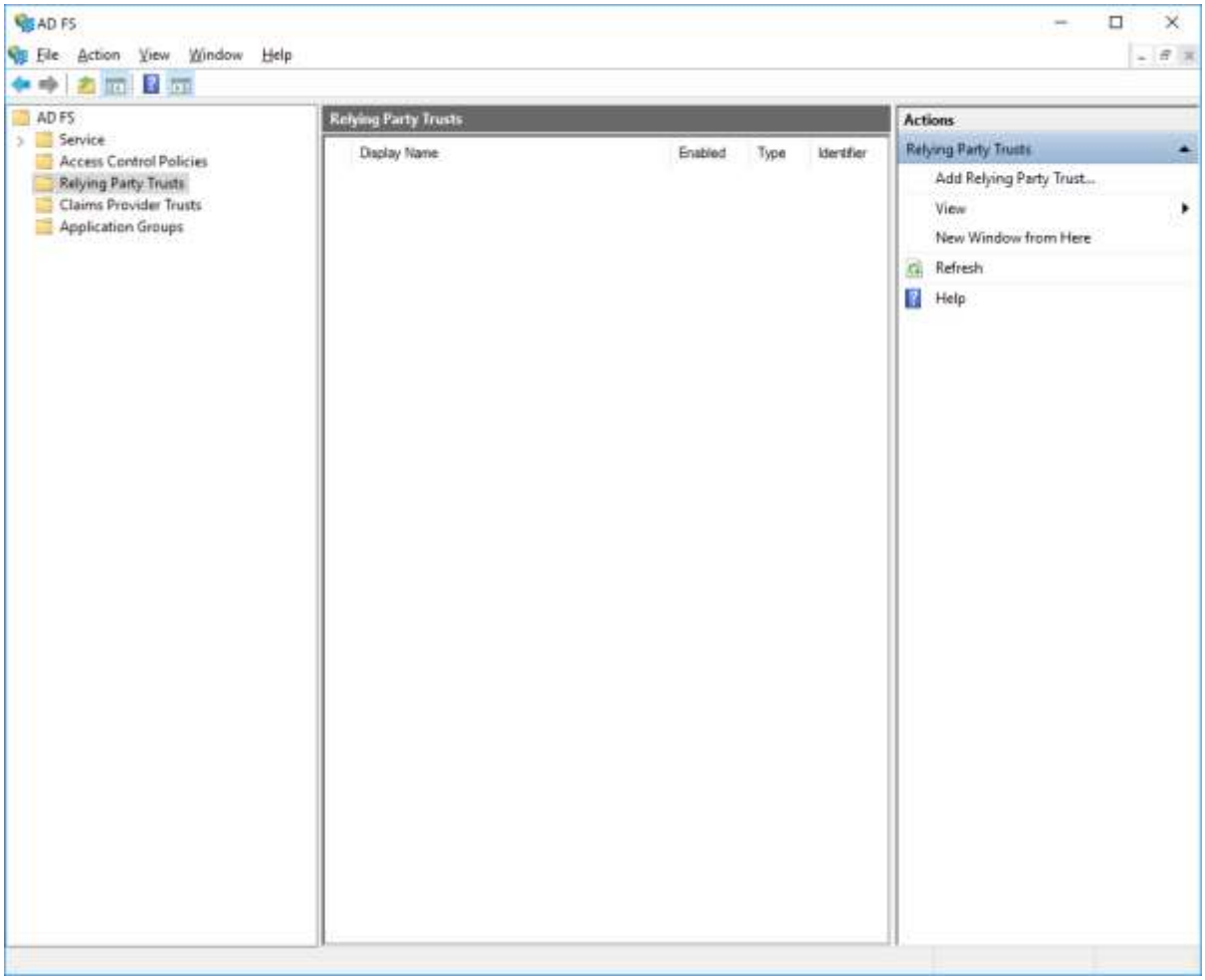
For more information, refer to:

https://blogs.technet.microsoft.com/rmilne/2017/06/20/how-to-enable-idpinitiatedsignon-page-in-ad-fs-2016/

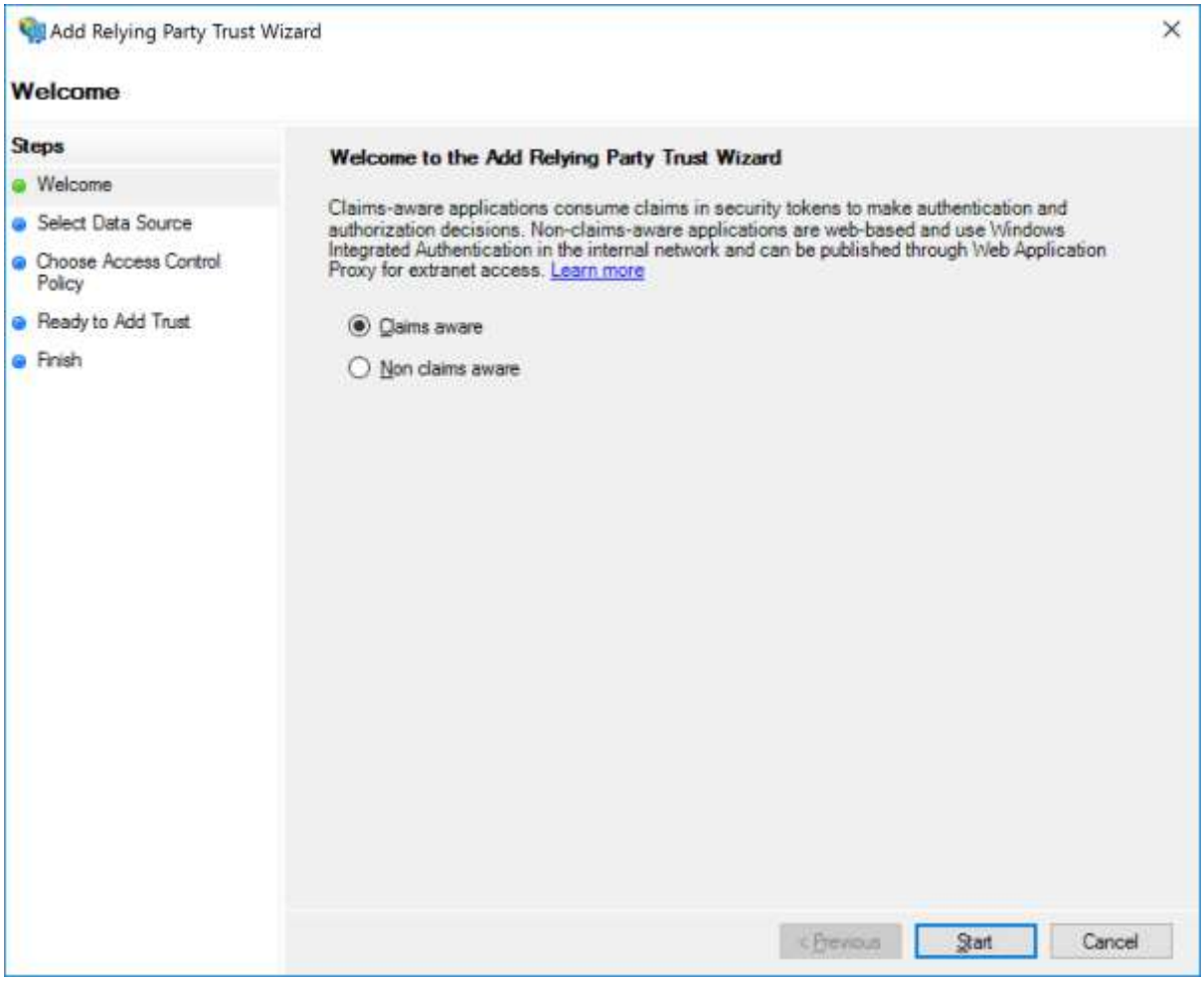
https://docs.microsoft.com/en-us/powershell/module/adfs/set-adfsproperties

Adding a Relying Party

Open the ADFS console and add a relying party trust.

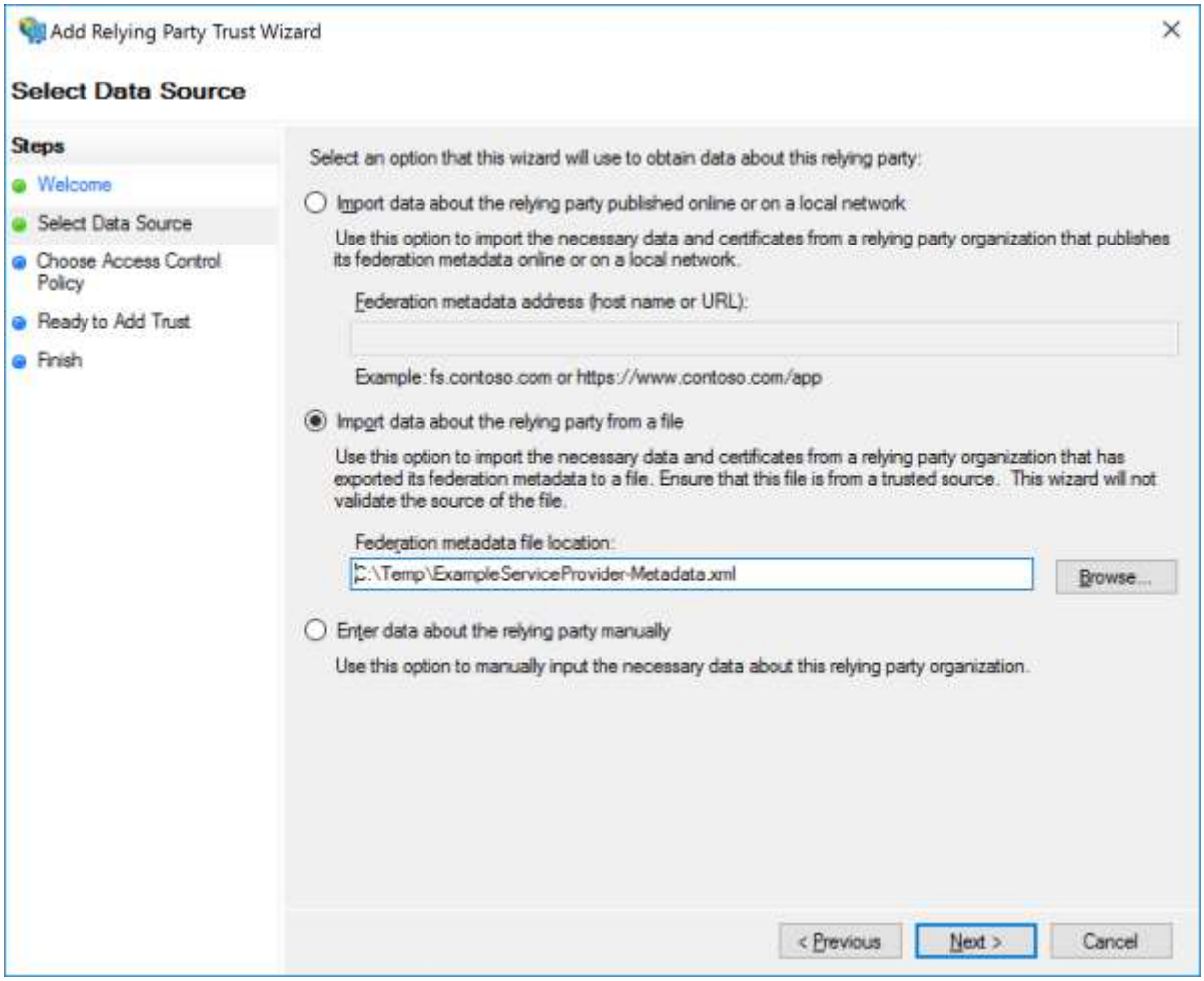


The relying party is claims aware.

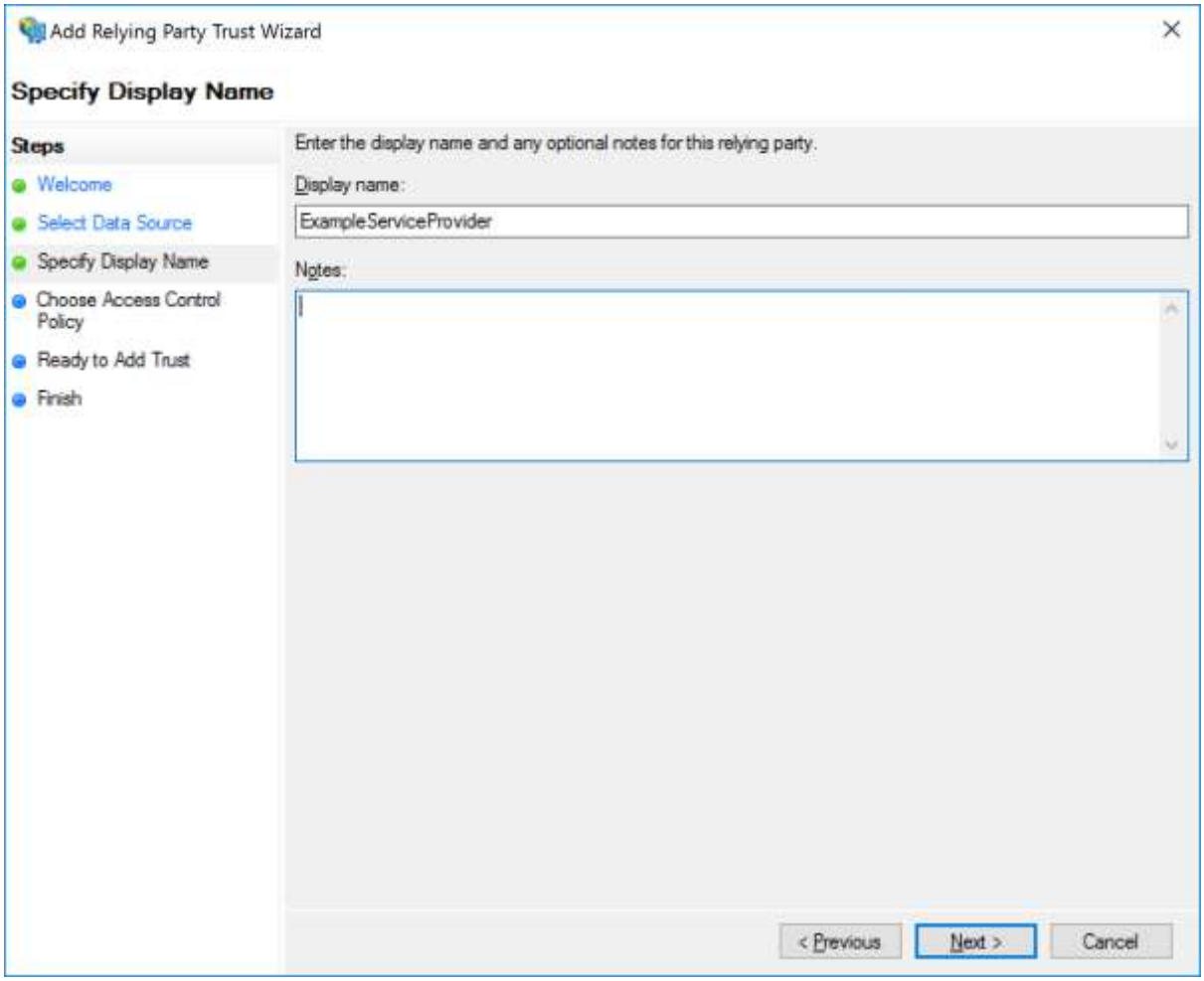


The relying party may be configured through SAML metadata or manually.

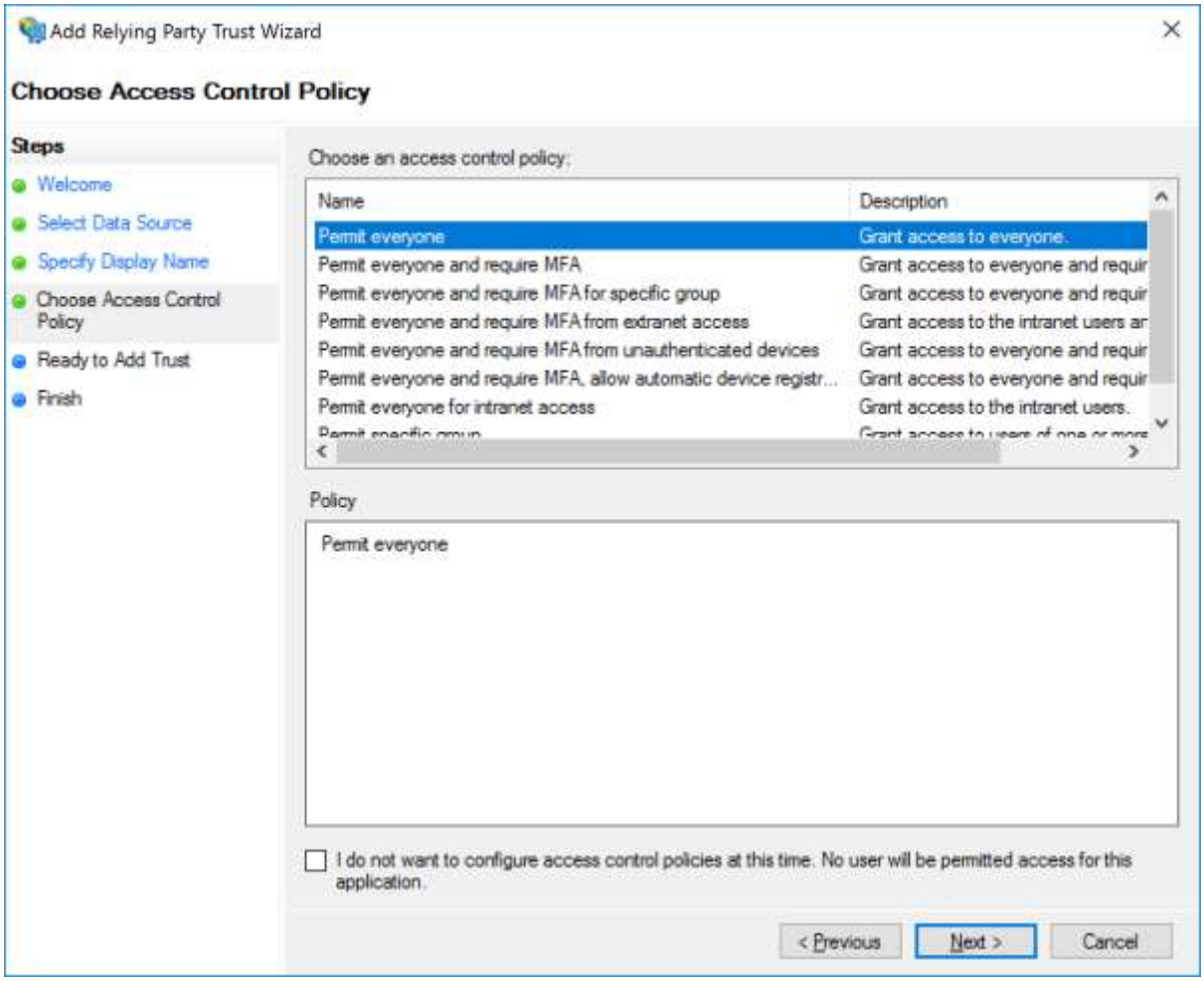
The included SAML metadata for the ExampleServiceProvider is used.



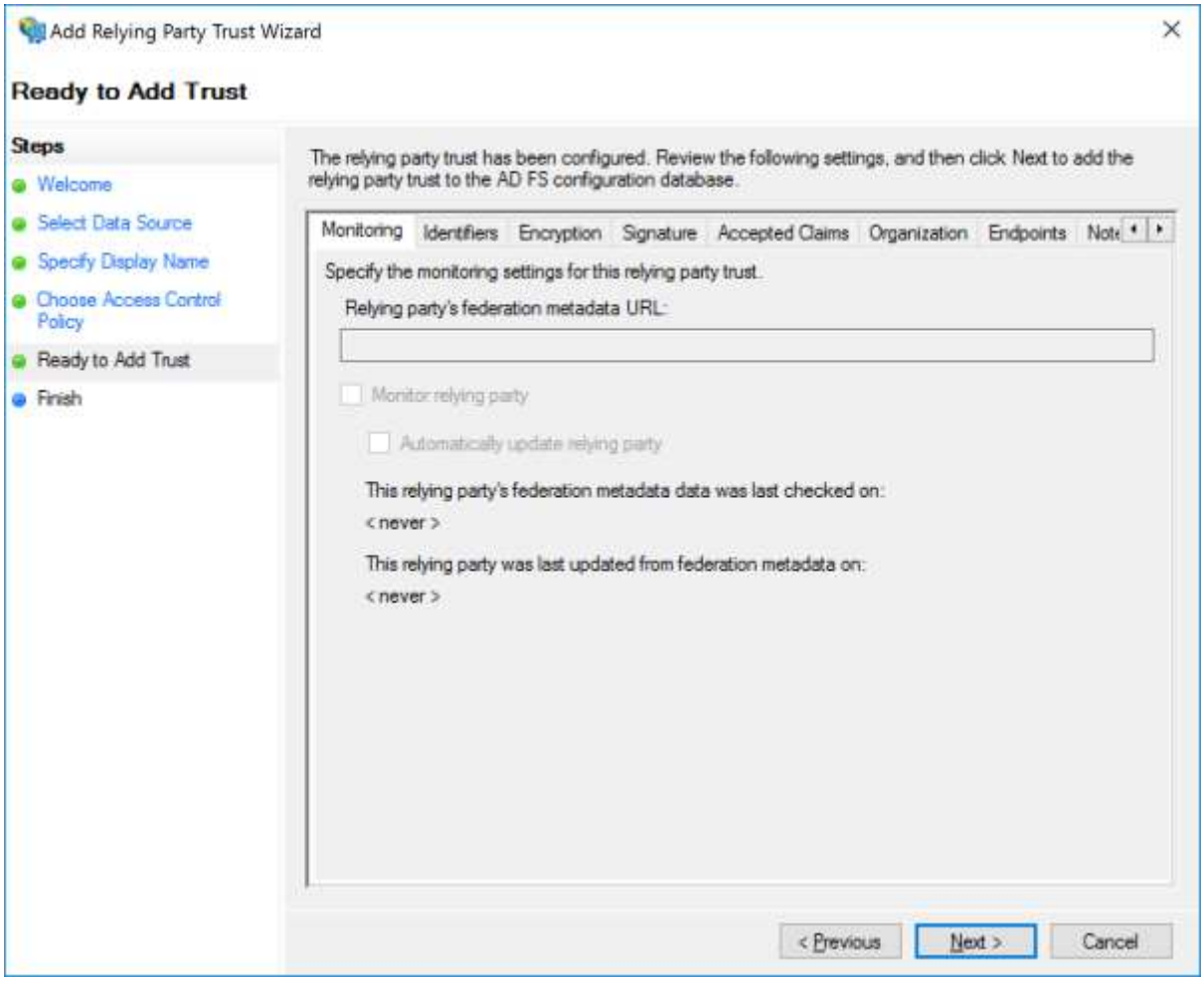
Provide a name purely for display purpose.



Specify the access control policy.



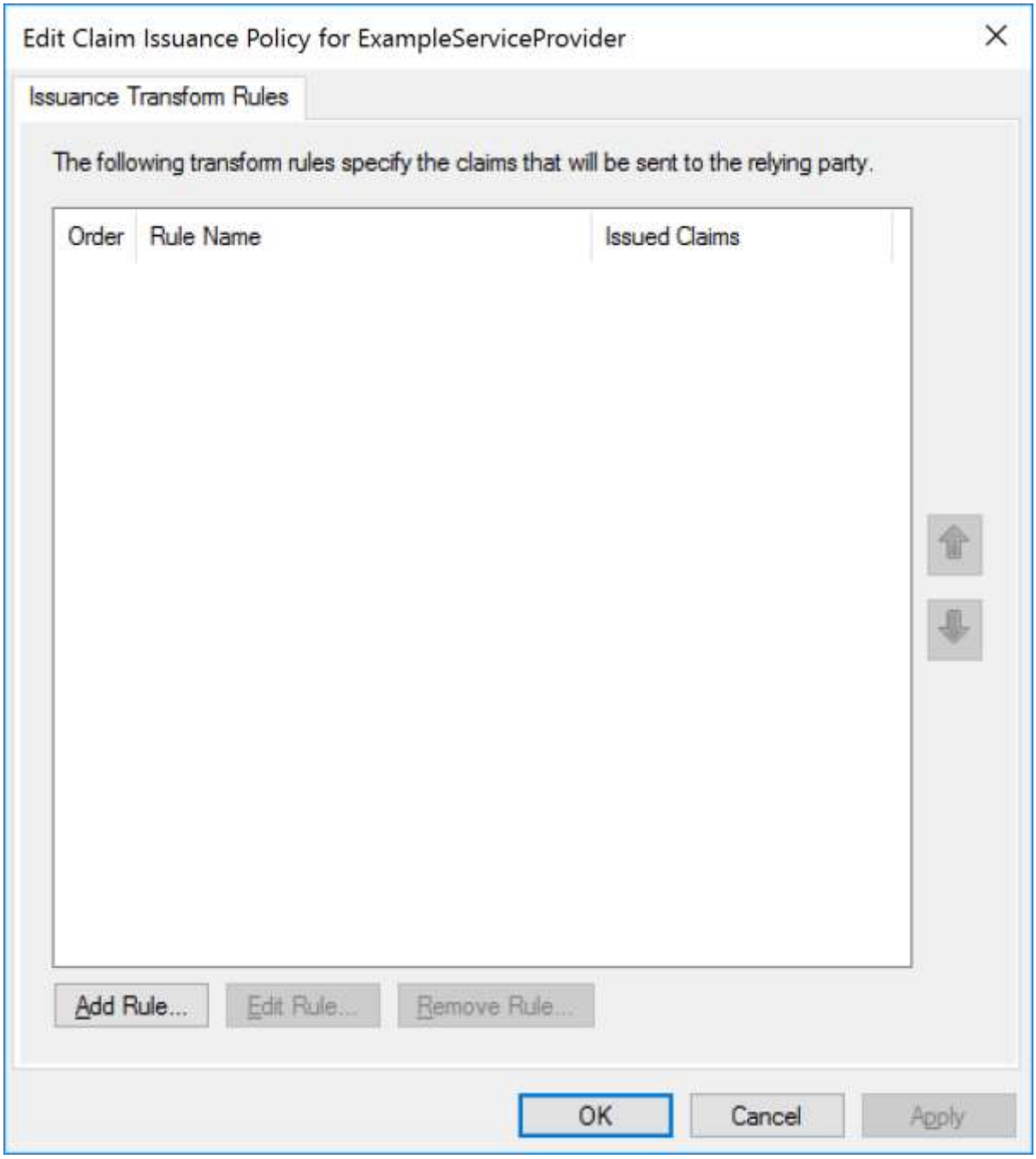
Review the configuration. This can be updated later if required.



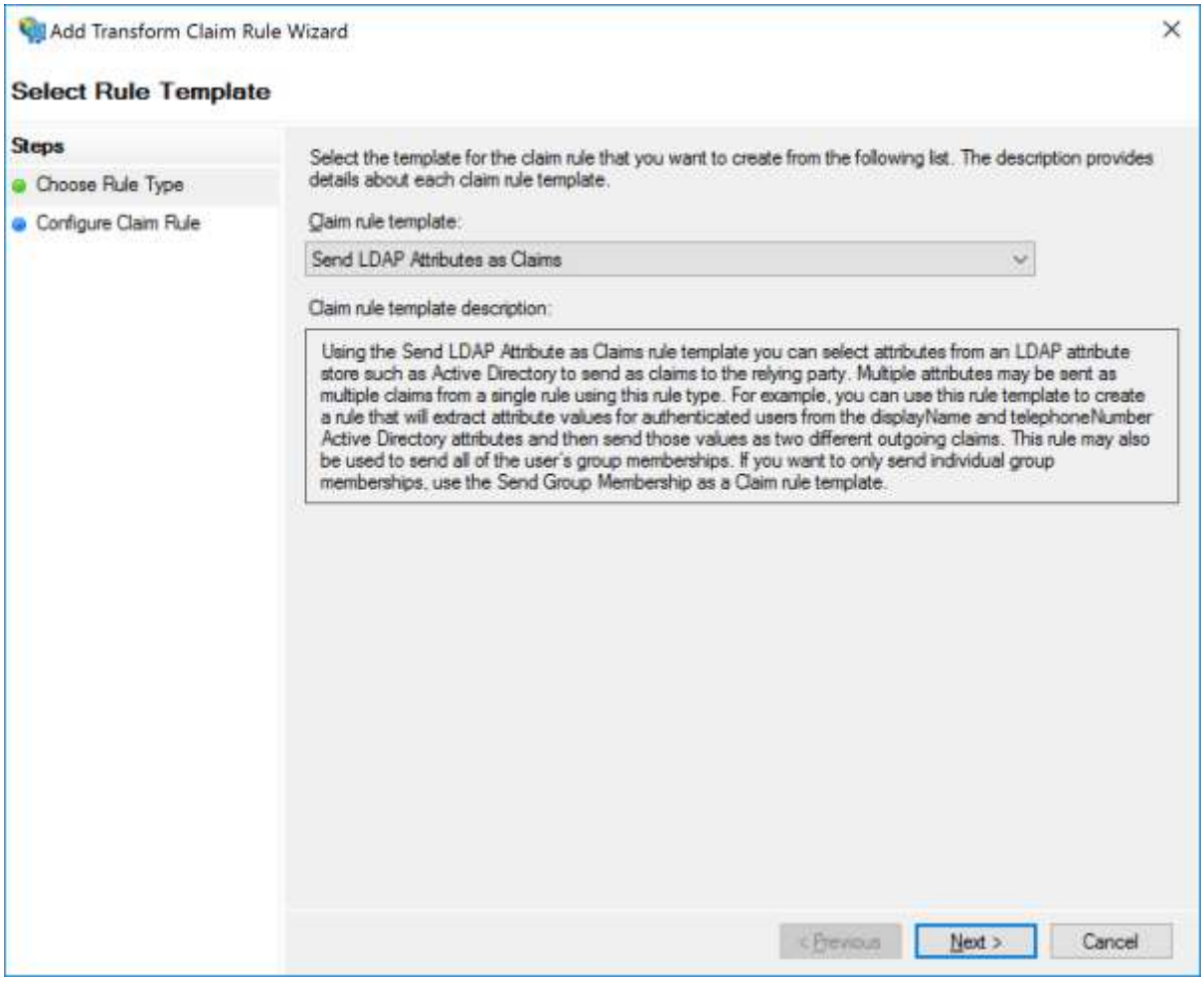
Adding a Claims Rule

Claim rules map user information into the SAML subject name identifier and SAML attributes that are included in the SAML assertion sent to the service provider.

Add a rule.



User properties in Active Directory will be used.

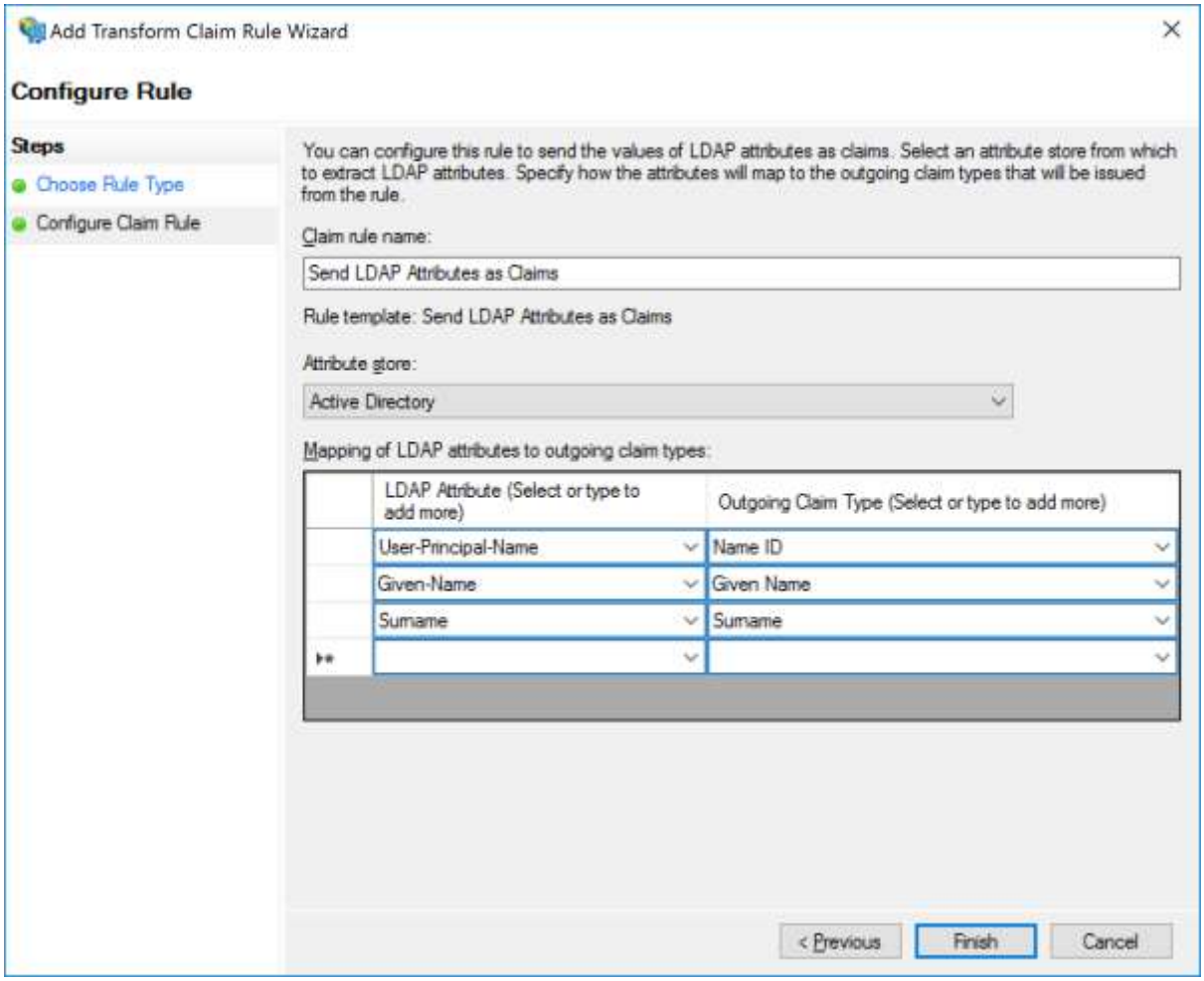


Specify the mapping.

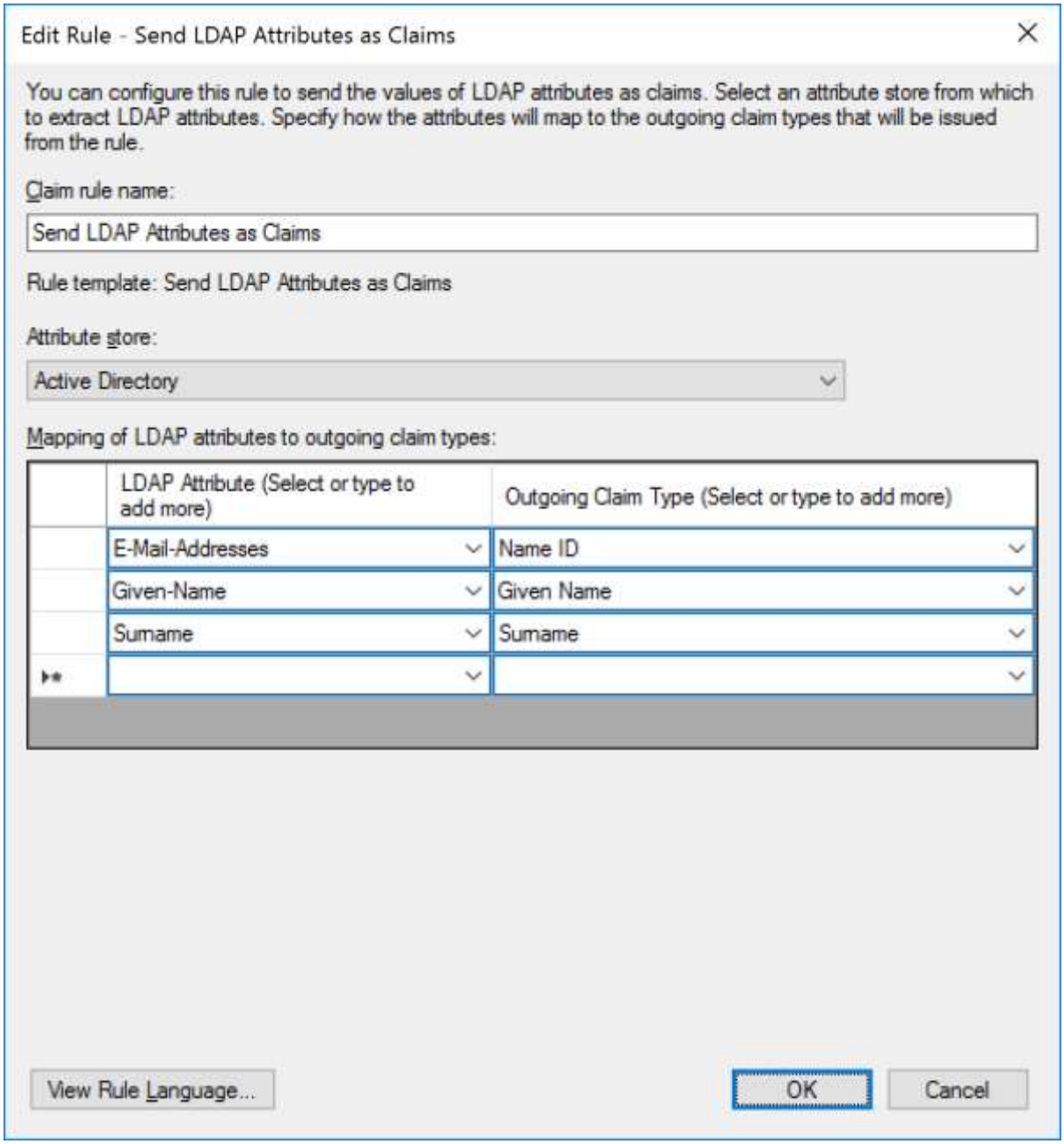
In this case the user principal name (UPN) is mapped to the SAML name identifier (Name ID).

The user's given name and surname are mapped to SAML attributes.

Note that to support SAML logout, a claims rule mapping for the SAML name identifier (Name ID) is required.



Alternatively, the user's email address may be mapped to the SAML name identifier (Name ID).



Specifying the Name ID Format

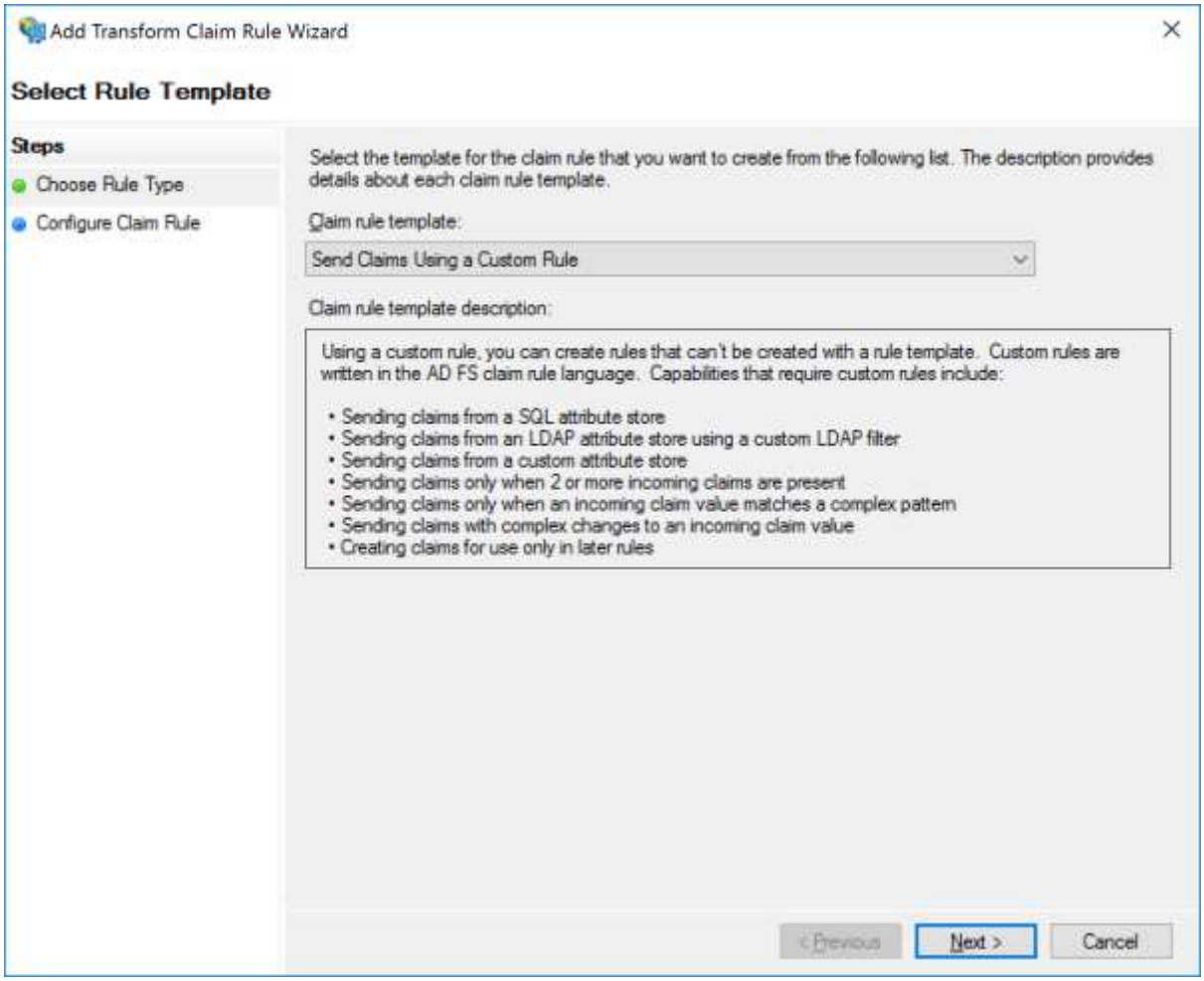
By default, no Name ID format is specified with the Name ID included in the SAML assertion.

A Name ID format may be specified if required by the service provider.

A Name ID format must be specified if the service provider specifies a Name ID policy in the SAML authn request, other than “urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified”.

For example, if the SAML authn request specifies a Name ID policy of “urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress”, the corresponding Name ID format must be returned in the SAML assertion.

To include the Name ID format, add a custom rule.

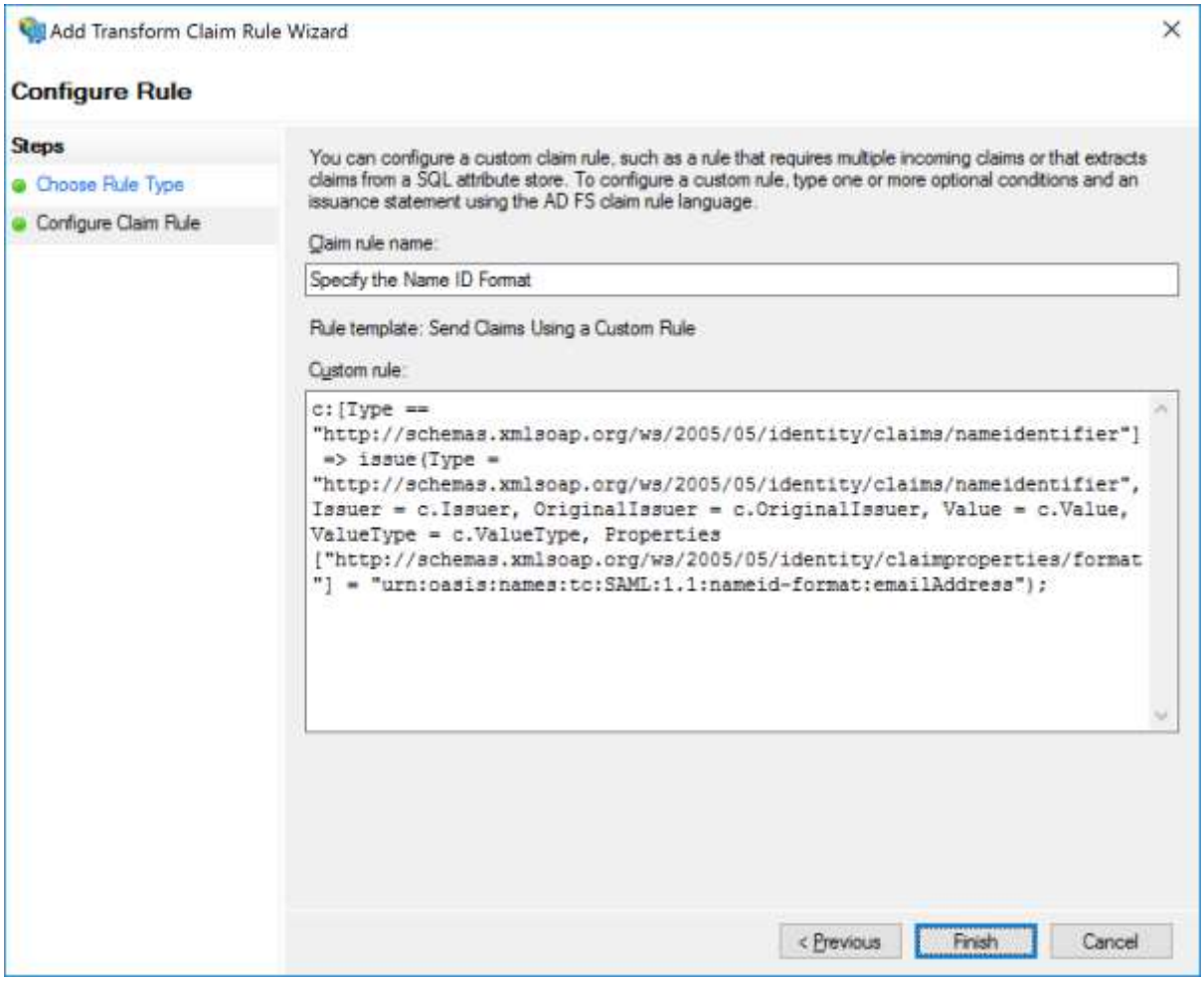


The custom rule transforms the http://schemas.xmlsoap.org/ws/2005/05/identity/claims/nameidentifier claim to include a http://schemas.xmlsoap.org/ws/2005/05/identity/claimproperties/format claim property with the value urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress.

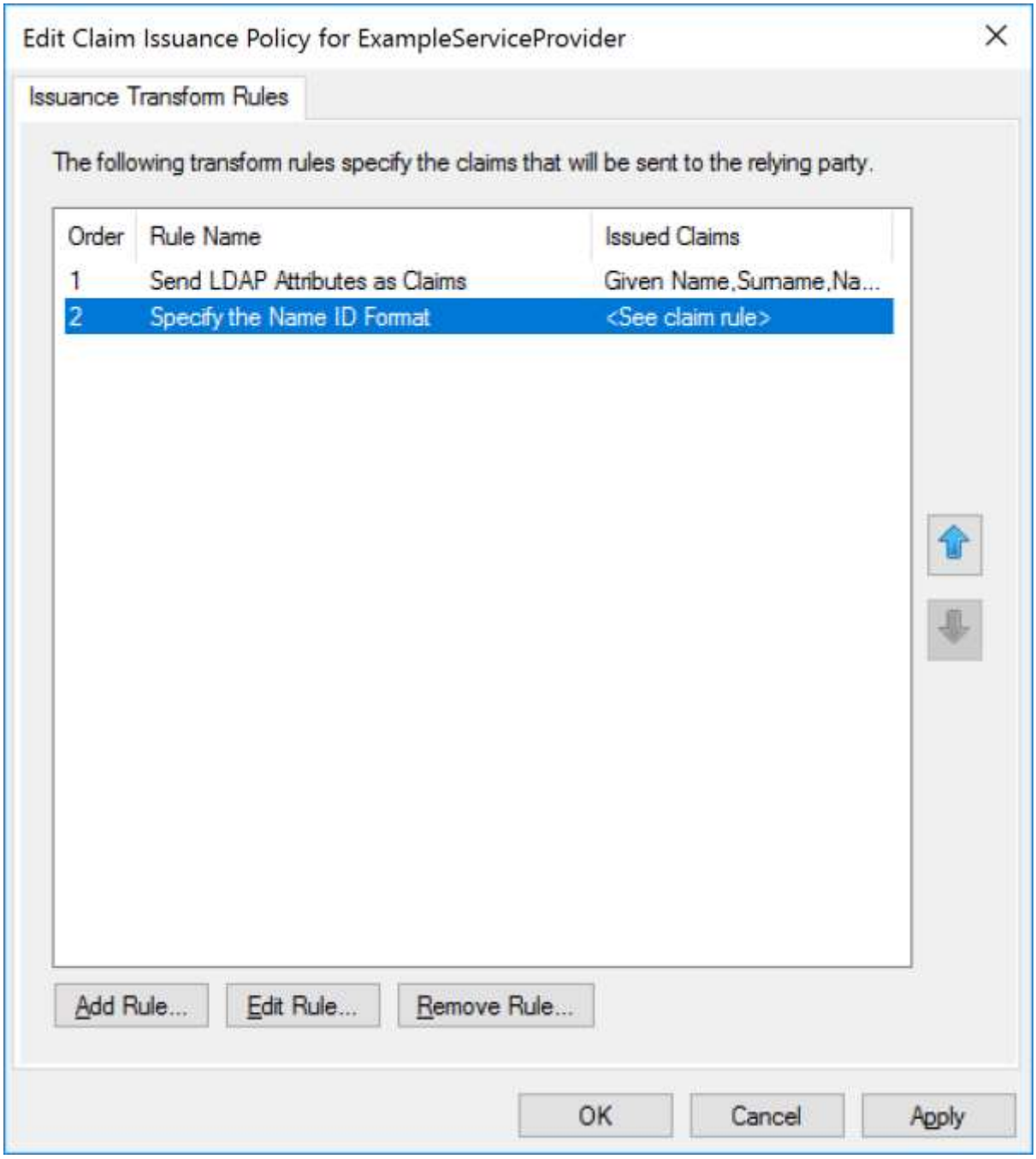
The rule is:

c:[Type == "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/nameidentifier"]

=> issue(Type = "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/nameidentifier", Issuer = c.Issuer, OriginalIssuer = c.OriginalIssuer, Value = c.Value, ValueType = c.ValueType, Properties["http://schemas.xmlsoap.org/ws/2005/05/identity/claimproperties/format"] = "urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress");

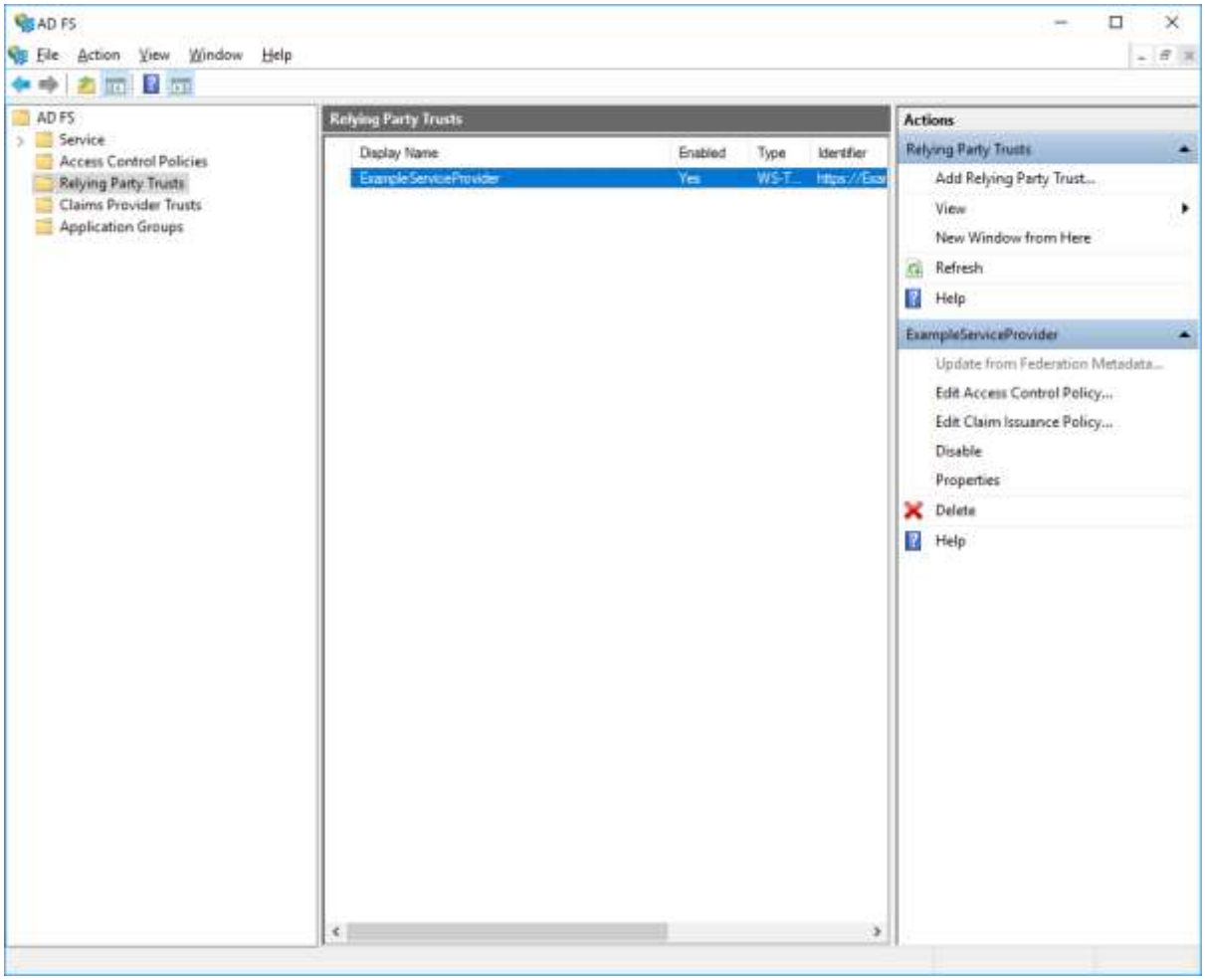


The rule order is important. The custom rule must be applied after the mapping of the LDAP attributes to outgoing claims.

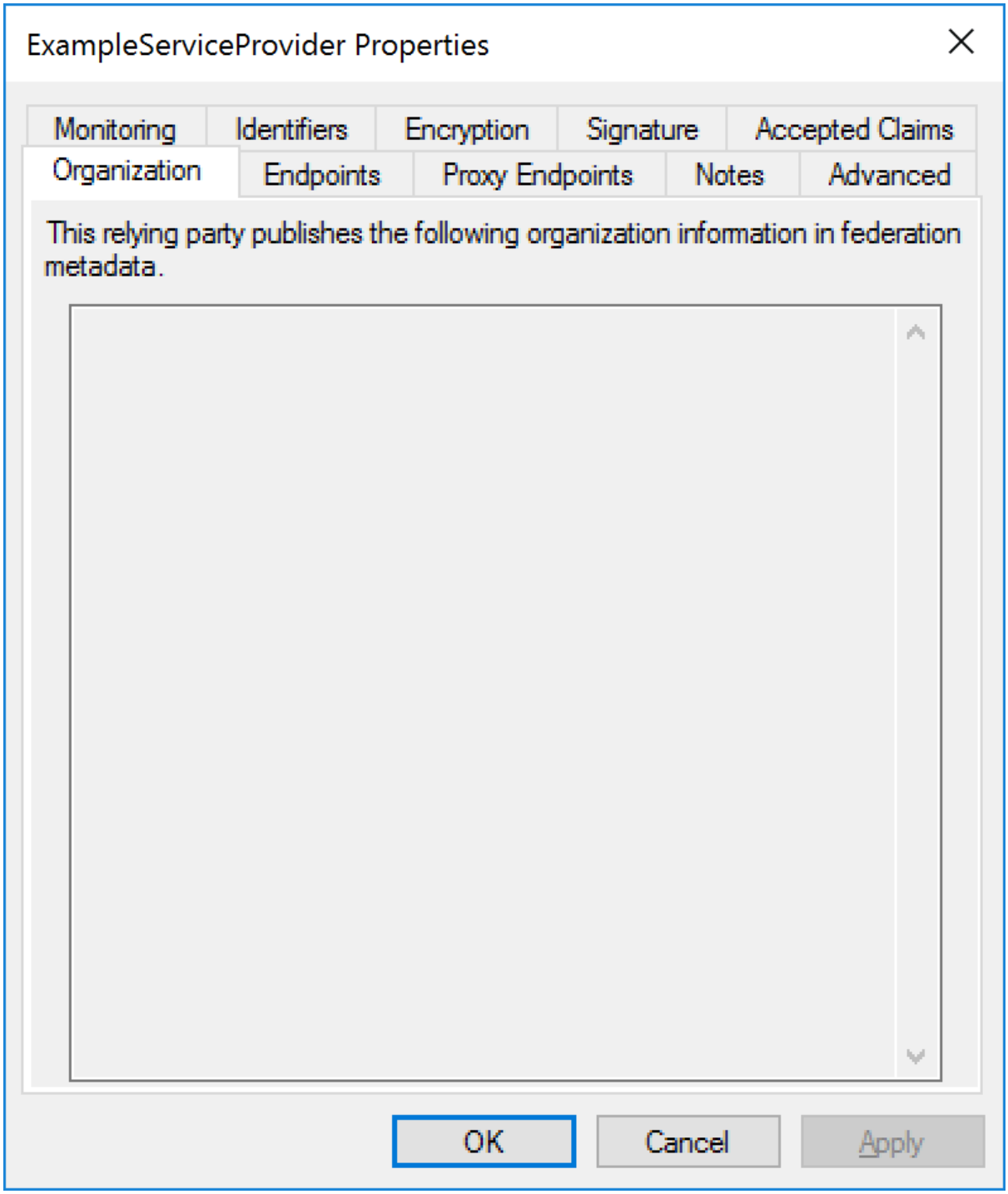


Reviewing Relying Party Configuration

The configuration may be reviewed or modified through the relying party's property tabs.



The organization information from the imported SAML metadata, if any, is displayed.

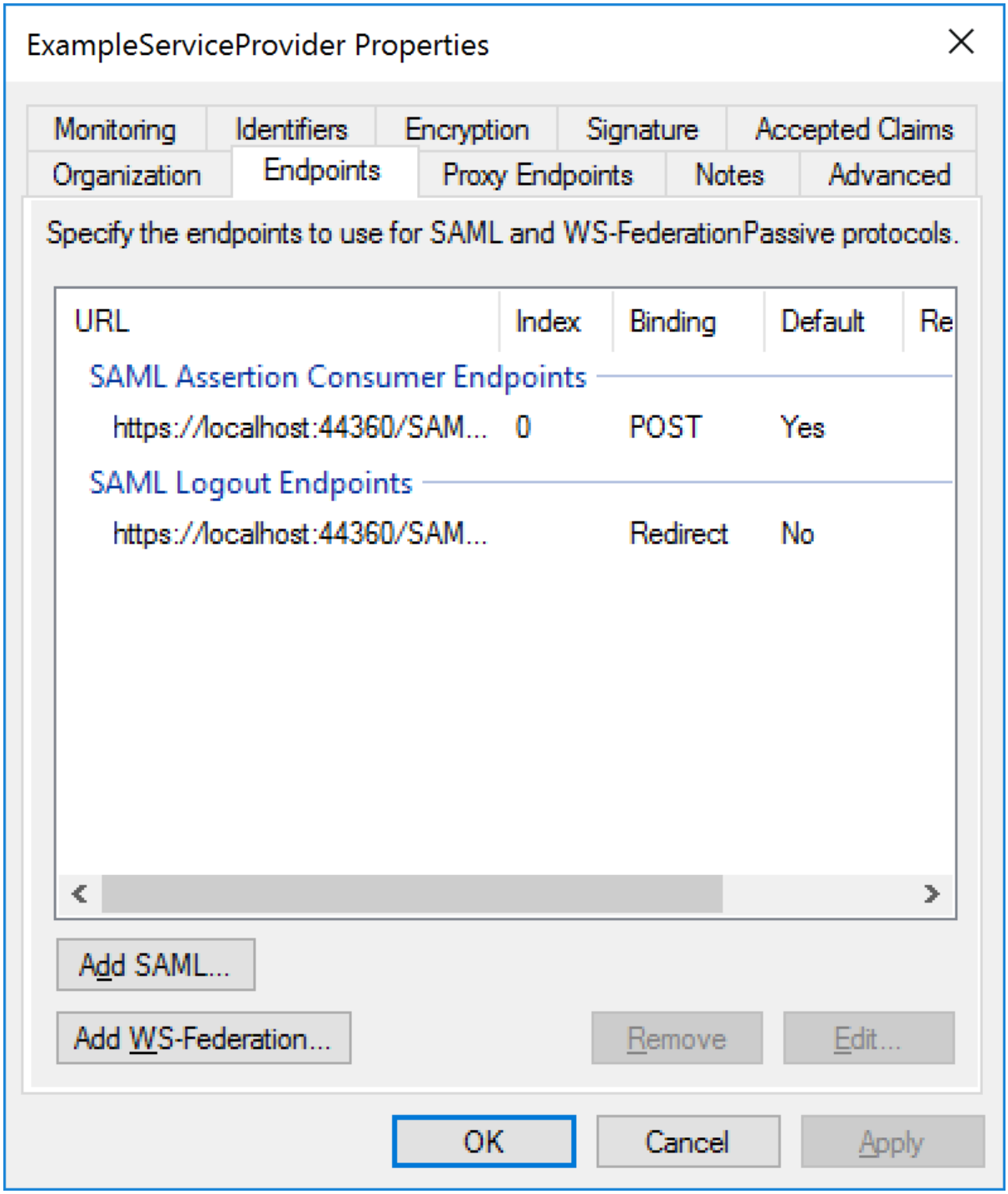


The endpoints are the URLs and SAML bindings used when communicating with the service provider.

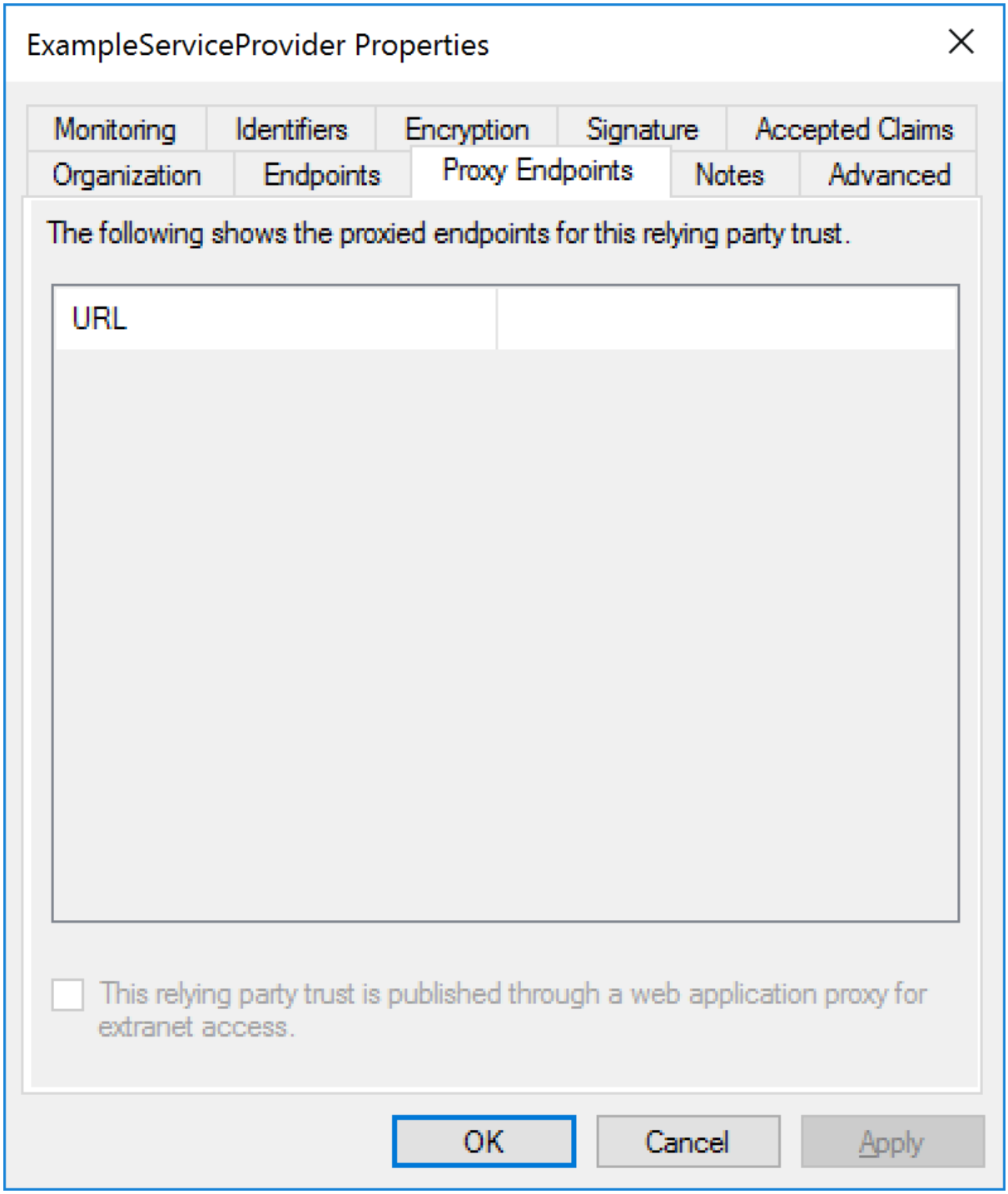
The SAML assertion consumer service receives SAML responses as part of SSO.

The SAML logout service receives logout messages as part of SAML logout.

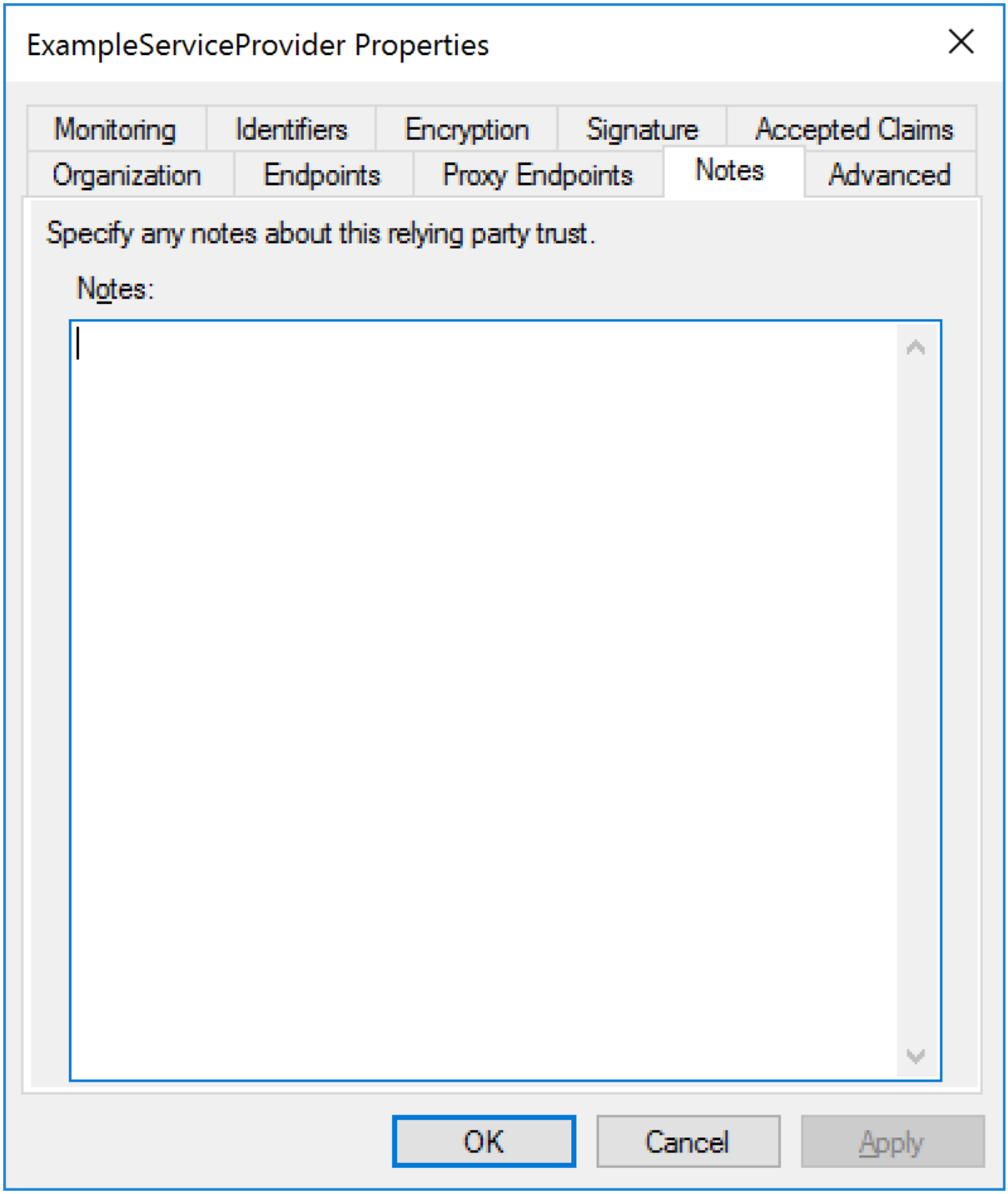
Note that ADFS treats URLs as being case sensitive.



Proxied endpoints aren't used in this example.

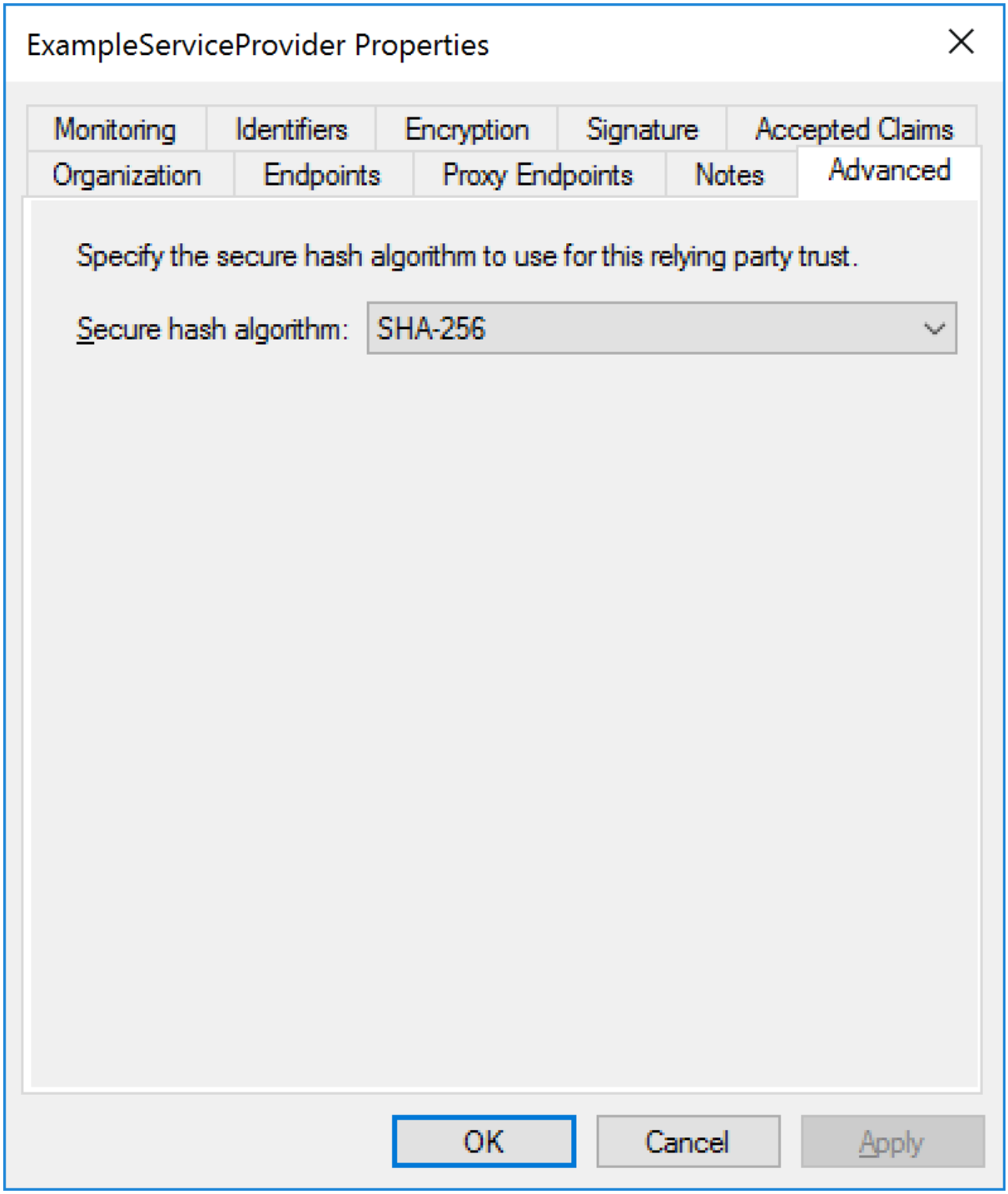


Notes are internal to ADFS and for documentation purposes only.

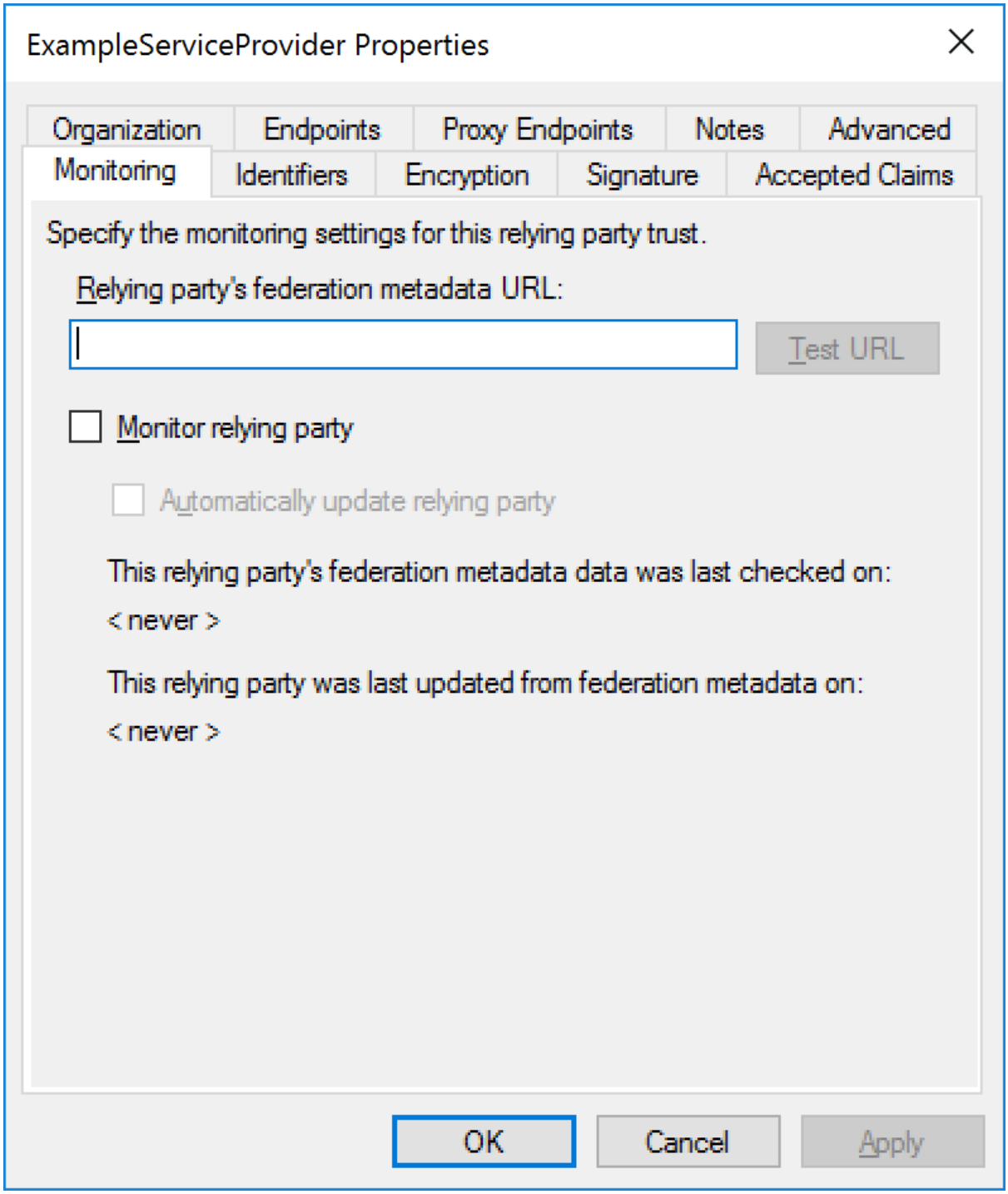


Either SHA-1 or SHA-256 may be specified as the signature algorithm.

SHA-256 is recommended.

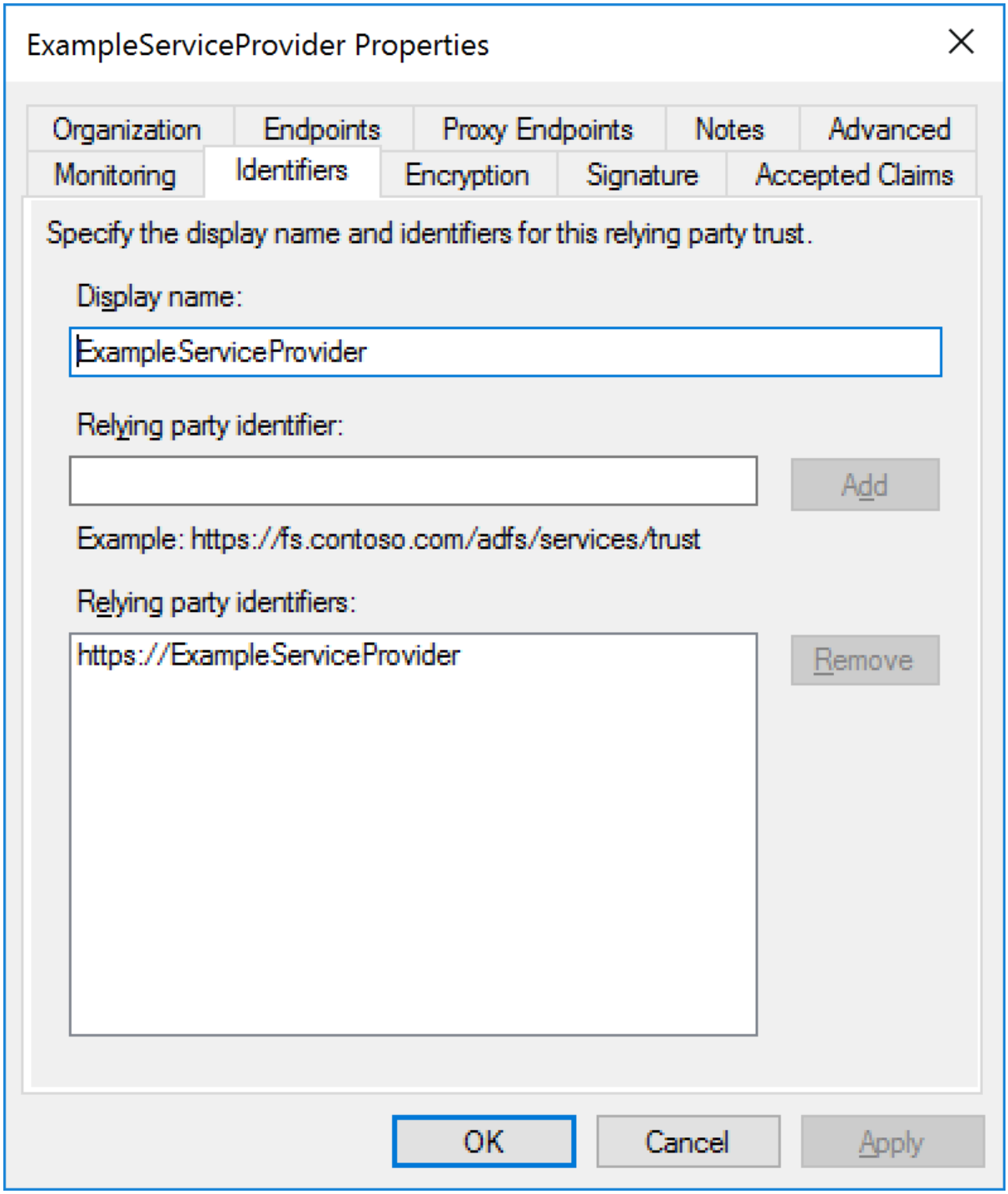


ADFS supports monitoring a URL for SAML metadata updates.



Relying party identifiers correspond to SAML metadata entity IDs.

The relying party identifier must match exactly with the service provider's configured name.

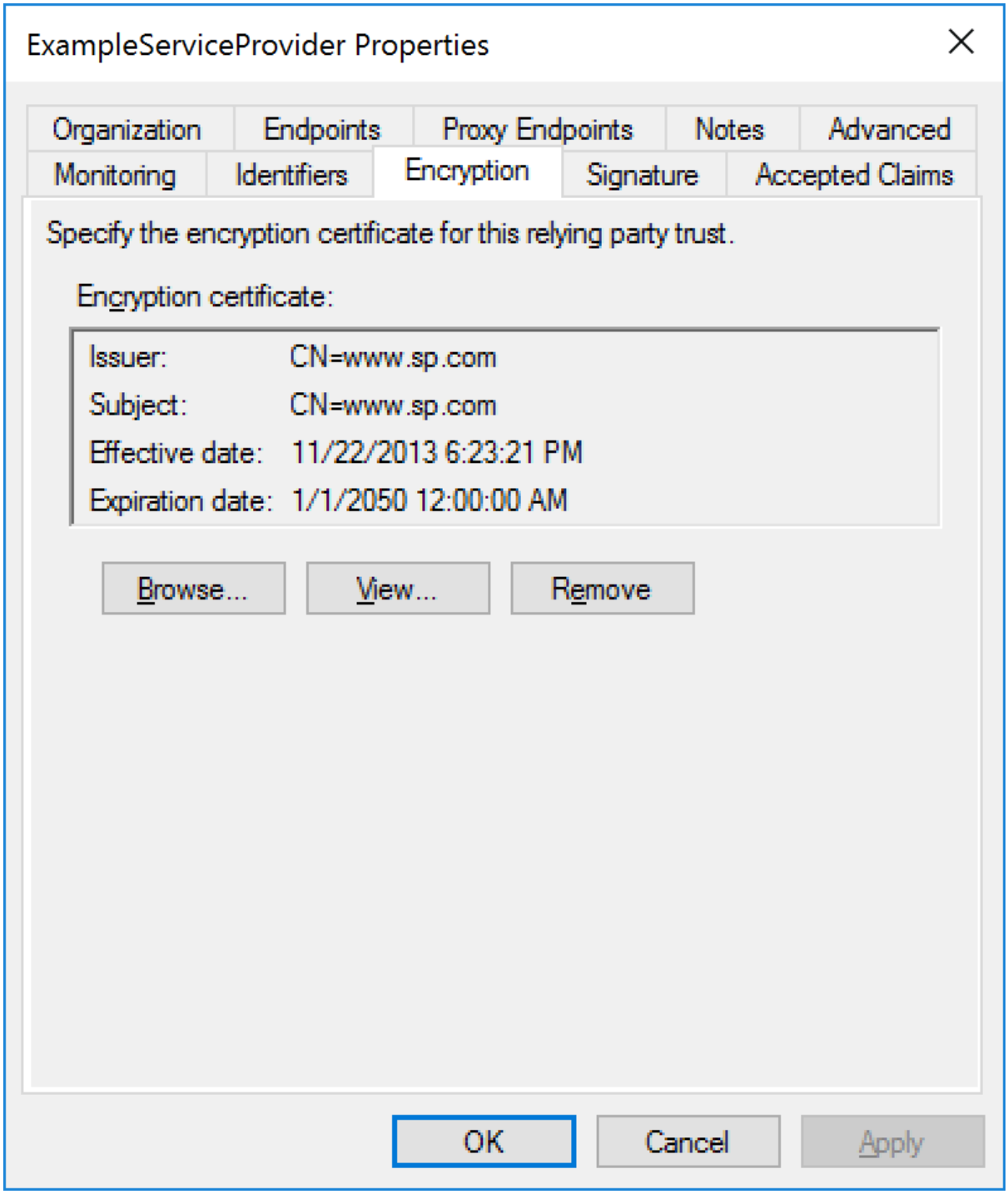


The encryption certificate is specified if the SAML assertion is to be encrypted.

If specified, it's the service provider's encryption certificate.

In many scenarios encrypting the SAML assertion isn't required as the privacy provided at the transport layer by HTTPS is sufficient.

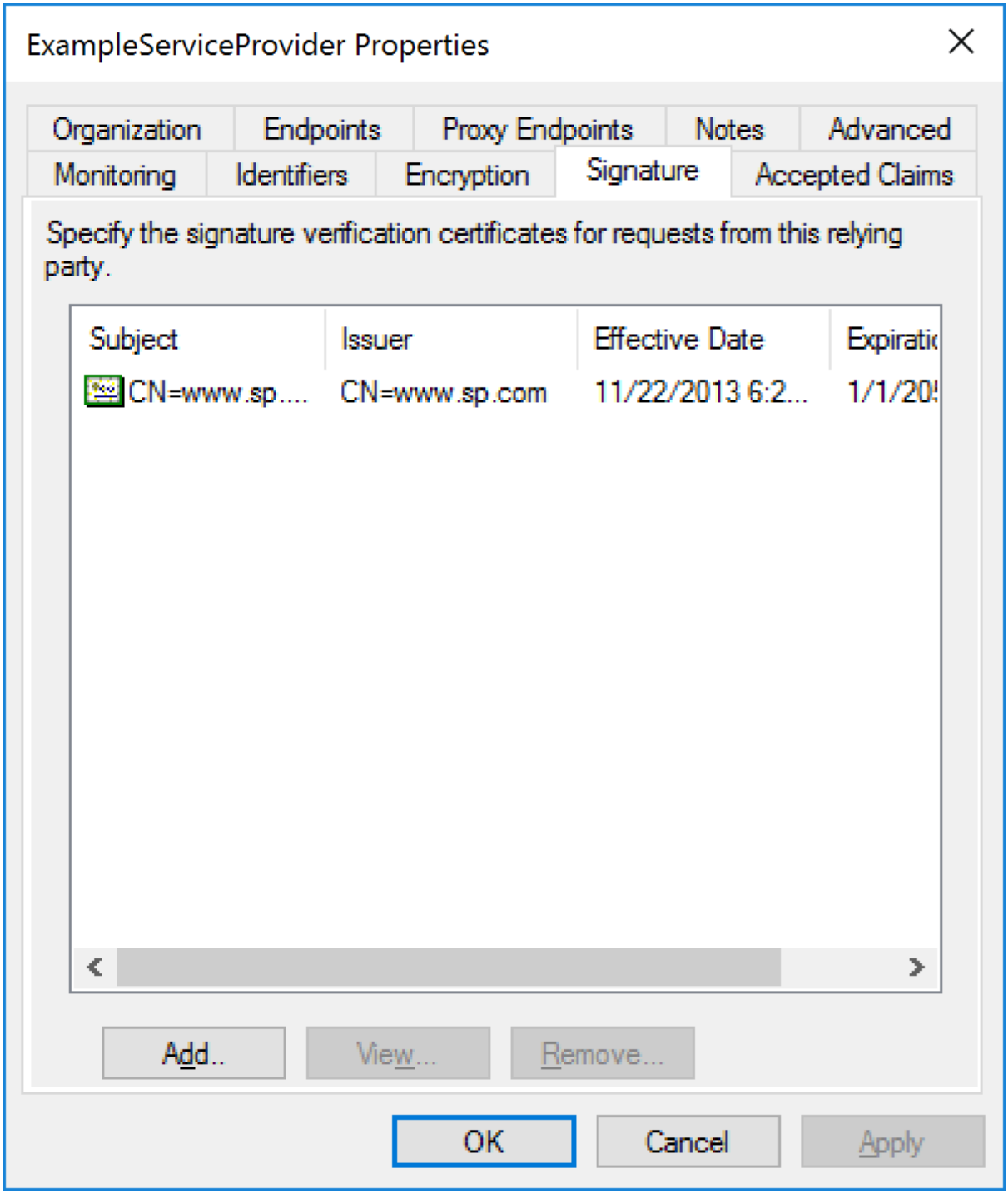
The certificate should be removed if the SAML assertion is not to be encrypted.



The signature certificate is specified if the signatures on SAML messages from the service provider are to be verified.

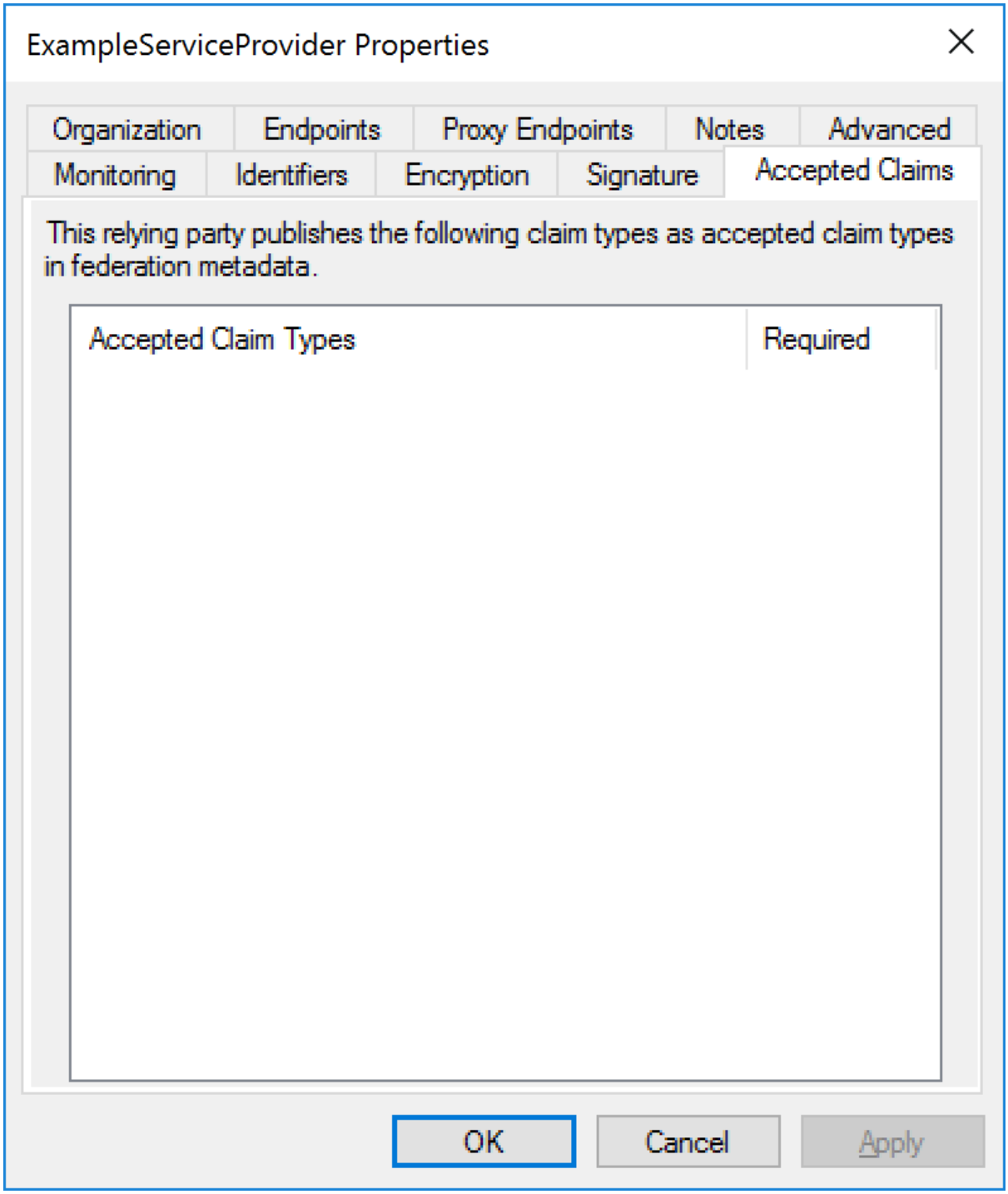
If specified, it's the service provider's signature certificate.

It's recommended that SAML messages from the service provider are signed.



The accepted claims are specified through the service provider's SAML metadata.

These are for documentation purposes and don't affect the claims sent by ADFS.



ADFS SAML Metadata

Metadata may be downloaded from:

https://<server-name>/FederationMetadata/2007-06/FederationMetadata.xml

For example:

https://adfs.componentspace.com/FederationMetadata/2007-06/FederationMetadata.xml

Service Provider Configuration

The following partner identity provider configuration is included in the example service provider's SAML configuration.

```
<PartnerIdentityProvider
  Name="http://adfs.componentspace.com/adfs/services/trust"
  Description="ADFS"
  SignLogoutRequest="true"
  SignLogoutResponse="true"
  WantLogoutRequestSigned="true"
  WantLogoutResponseSigned="true"
  SingleSignOnServiceUrl="https://adfs.componentspace.com/adfs/ls/"
  SingleLogoutServiceUrl="https://adfs.componentspace.com/adfs/ls/">
  <PartnerCertificates>
    <Certificate FileName="Certificates\adfs.cer"/>
  </PartnerCertificates>
</PartnerIdentityProvider>
```

Some of this information was extracted from the ADFS SAML metadata.

The partner certificate file corresponds to the signing certificate included in the metadata.

ADFS doesn't require the SAML authn request to be signed although it is recommended.

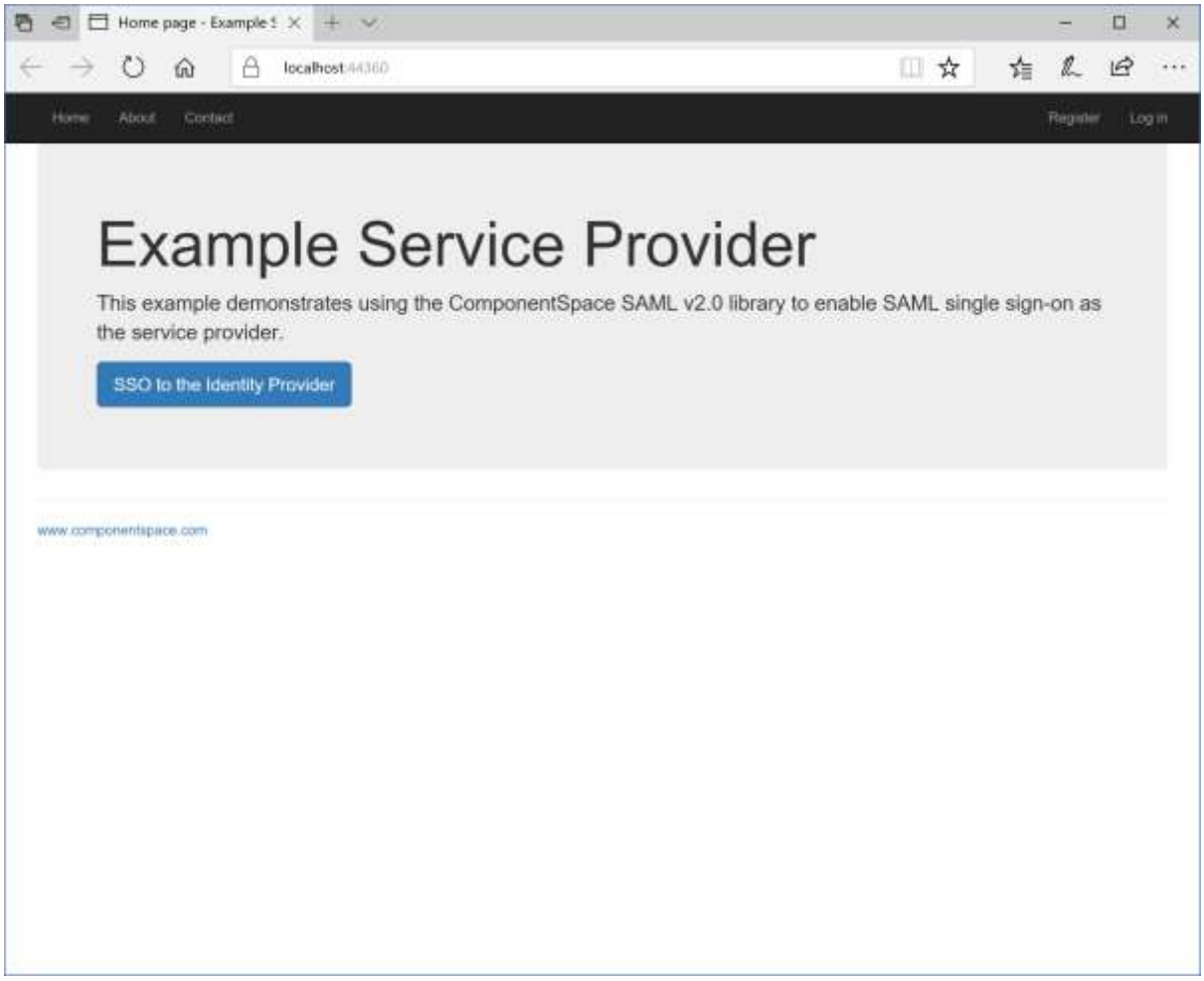
ADFS requires SAML logout messages to signed.

Ensure the PartnerName specifies the correct partner identity provider.

```
<add key="PartnerName" value="http://adfs.componentspace.com/adfs/services/trust"/>
```

SP-Initiated SSO

Browse to the example service provider.

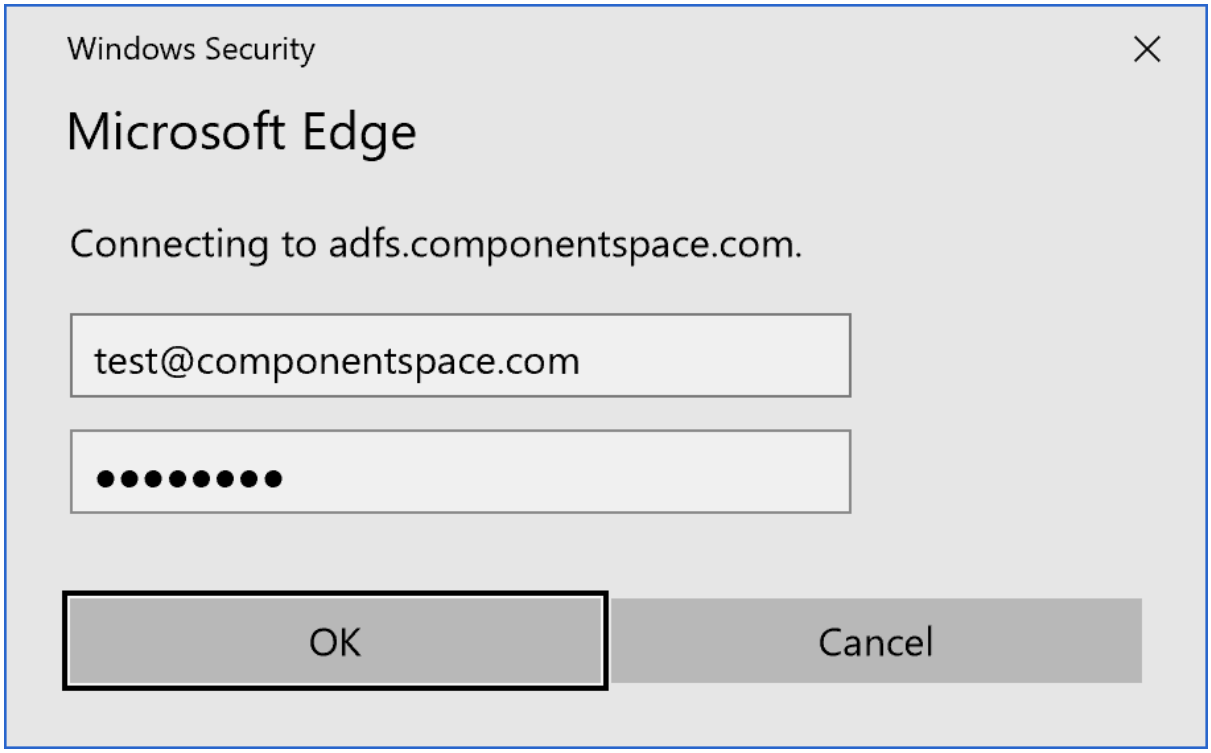


Click the button to SSO to the identity provider.

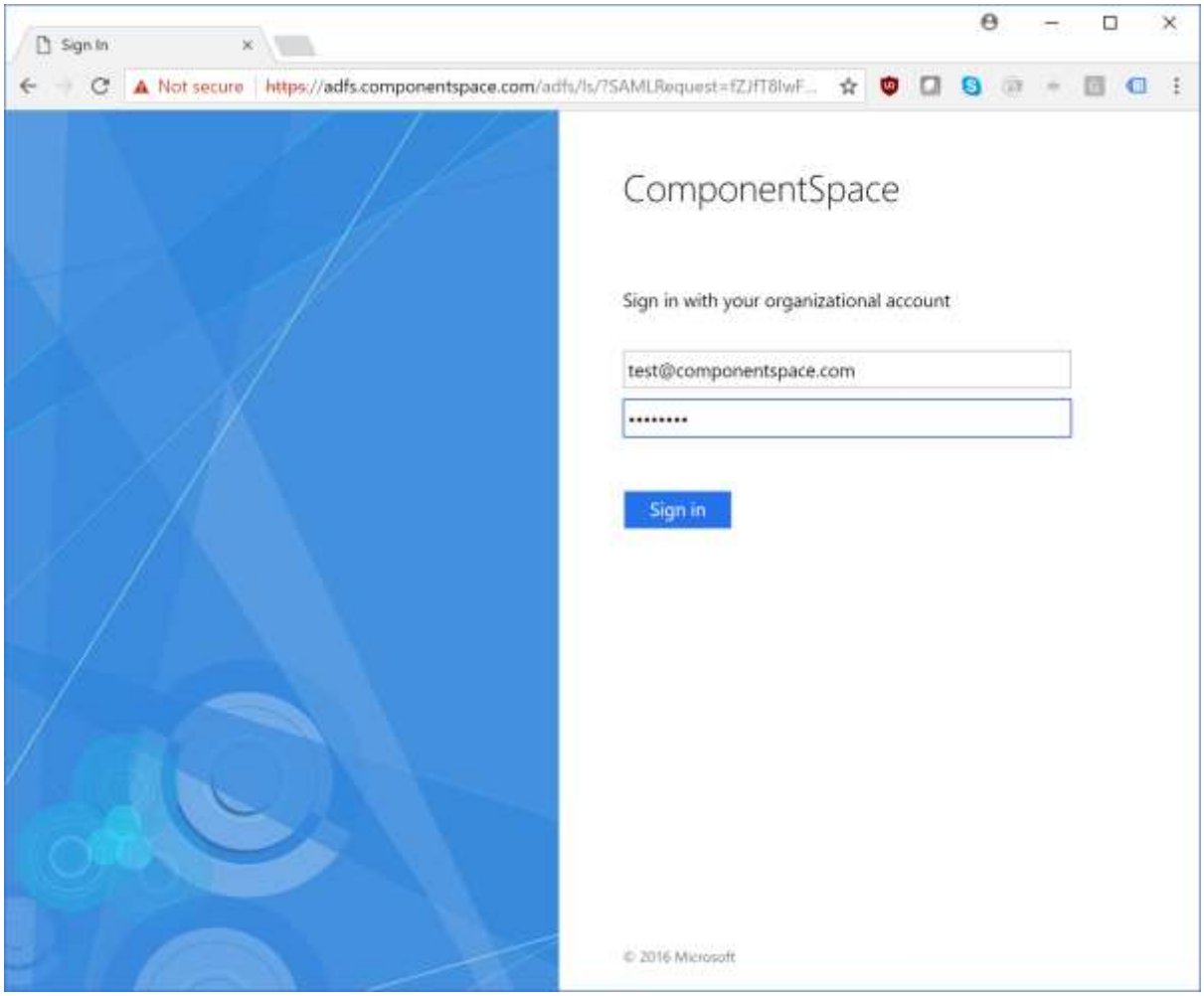
Log into ADFS.

The login method (e.g. forms authentication, Windows authentication) will be dependent on the authentication methods configured in ADFS and the browser type.

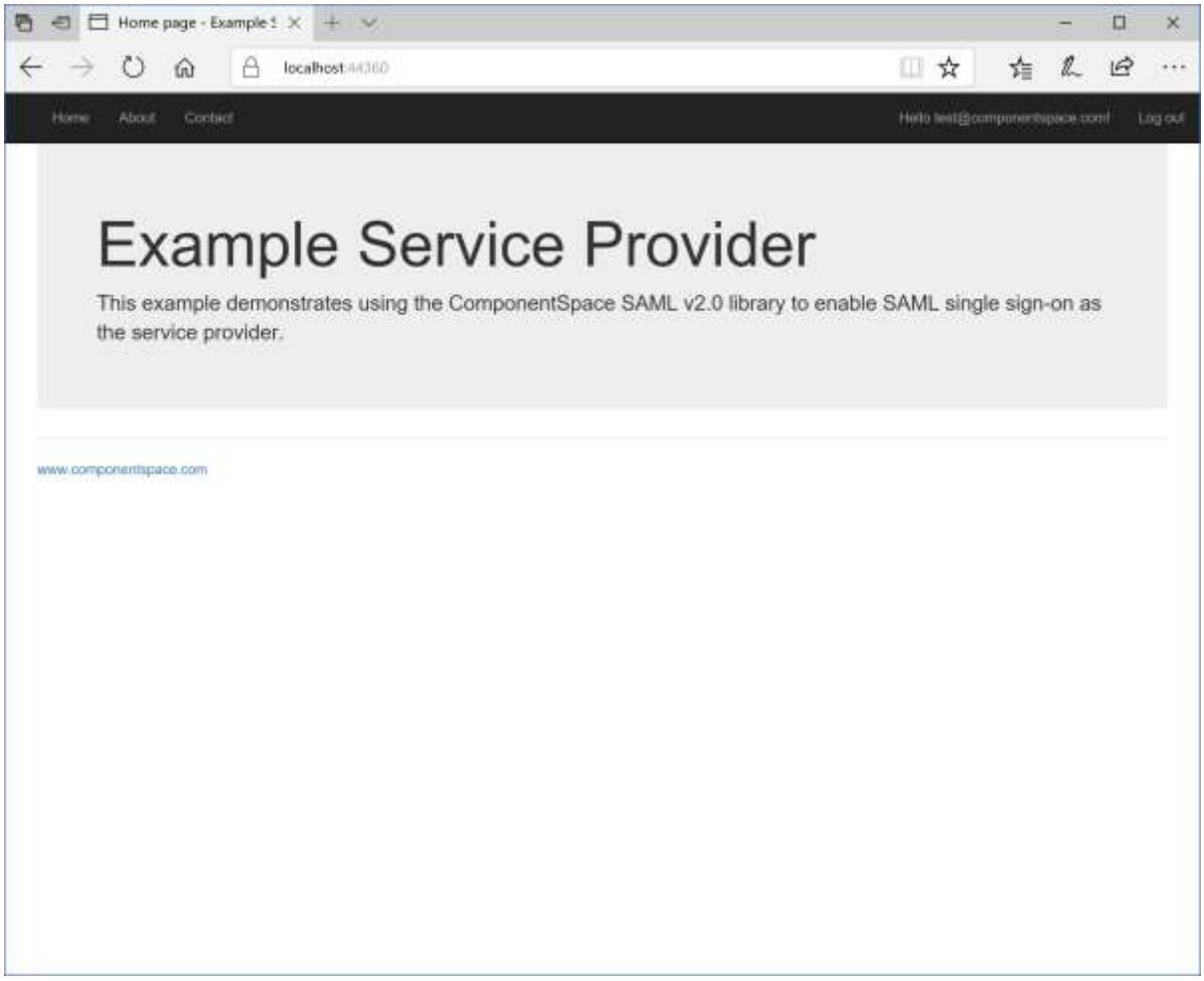
The following is the authentication prompt displayed by Microsoft Edge when Windows integrated authentication is enabled but the user is not logged into the domain.



The following is the forms authentication prompt displayed by Google Chrome.



The user is automatically logged in at the service provider.



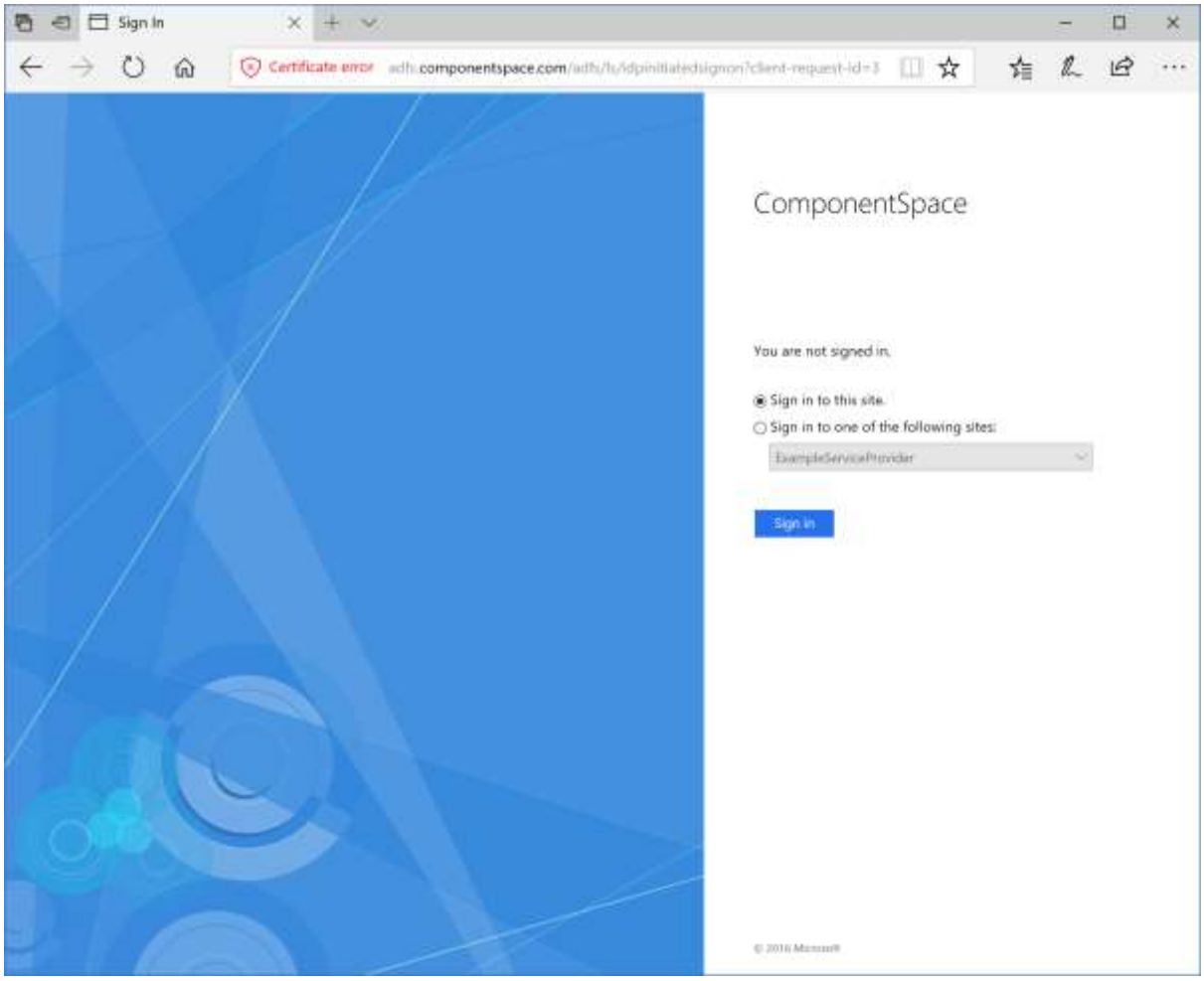
IdP-Initiated SSO

Browse to:

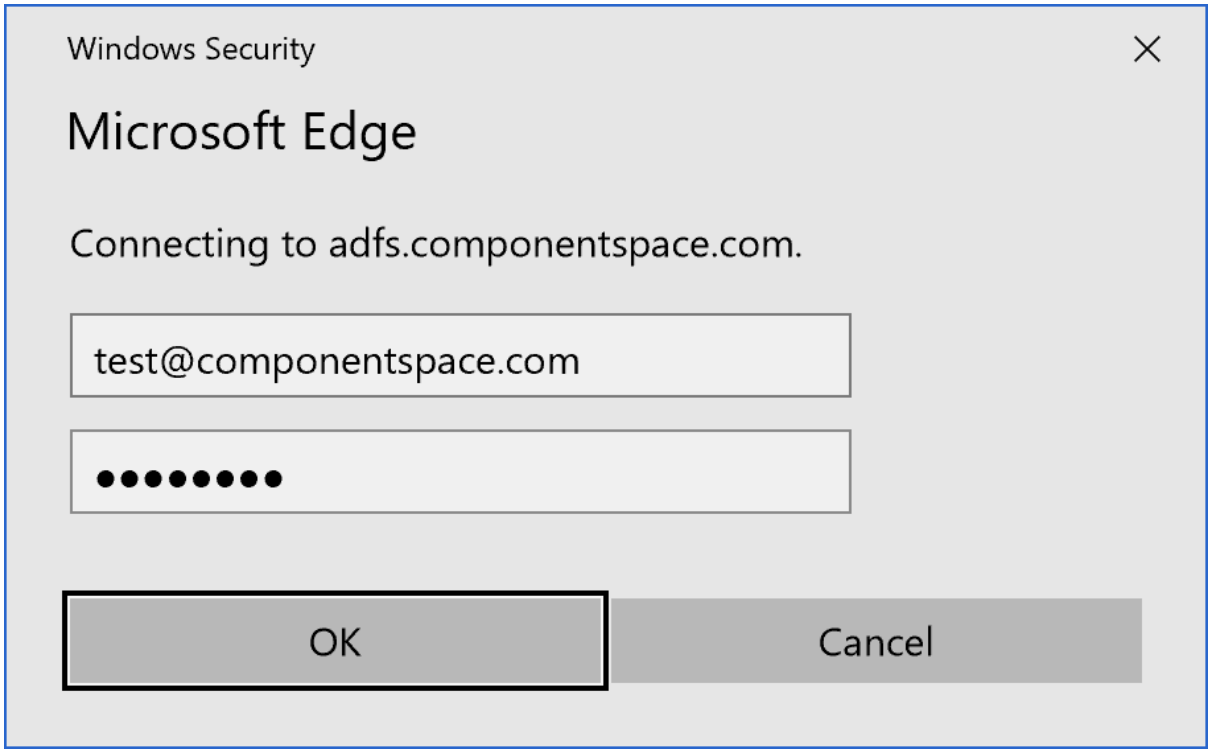
https://<server-name>/adfs/ls/IdpInitiatedSignon

For example:

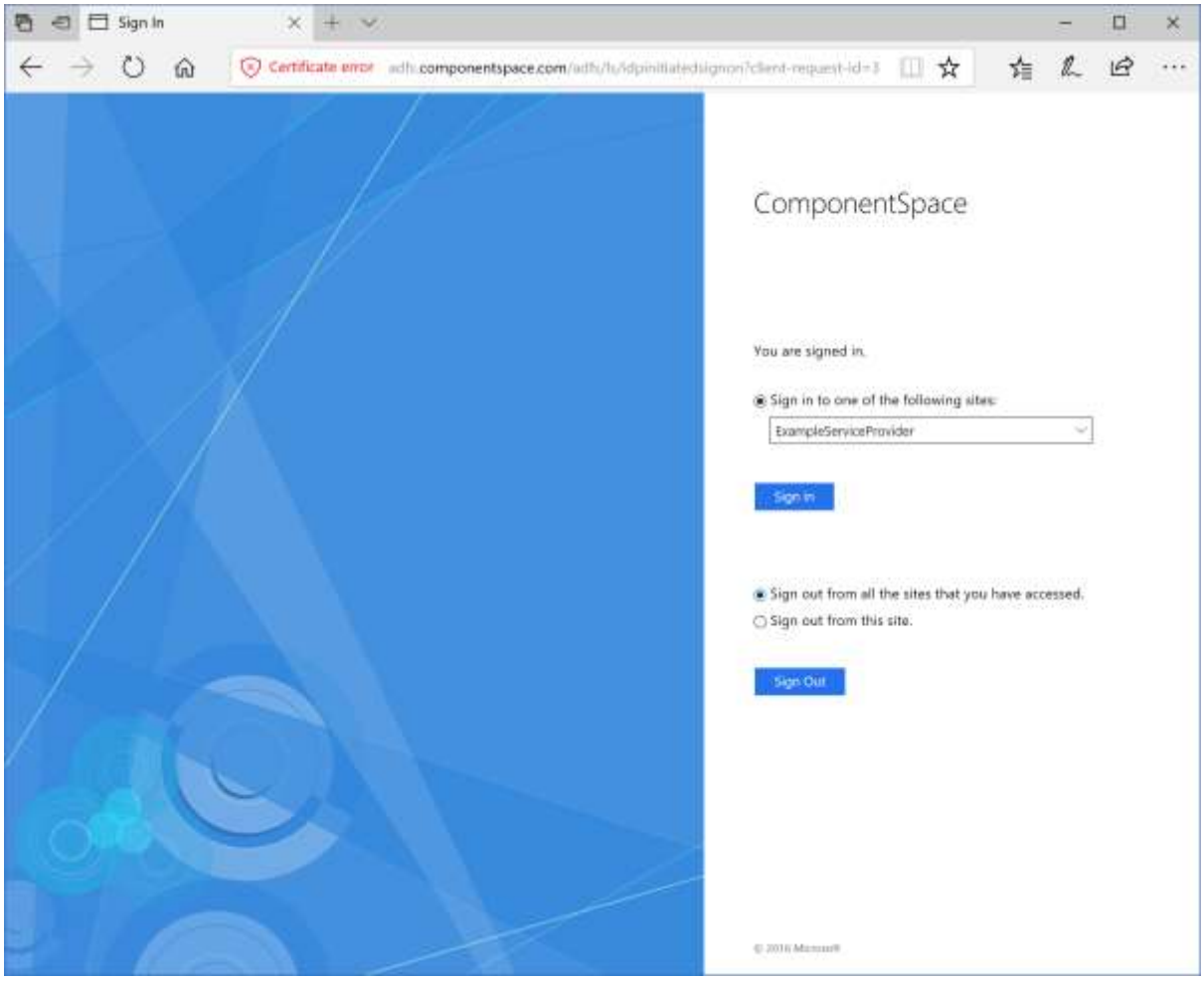
https://adfs.componentspace.com/adfs/ls/IdpInitiatedSignon



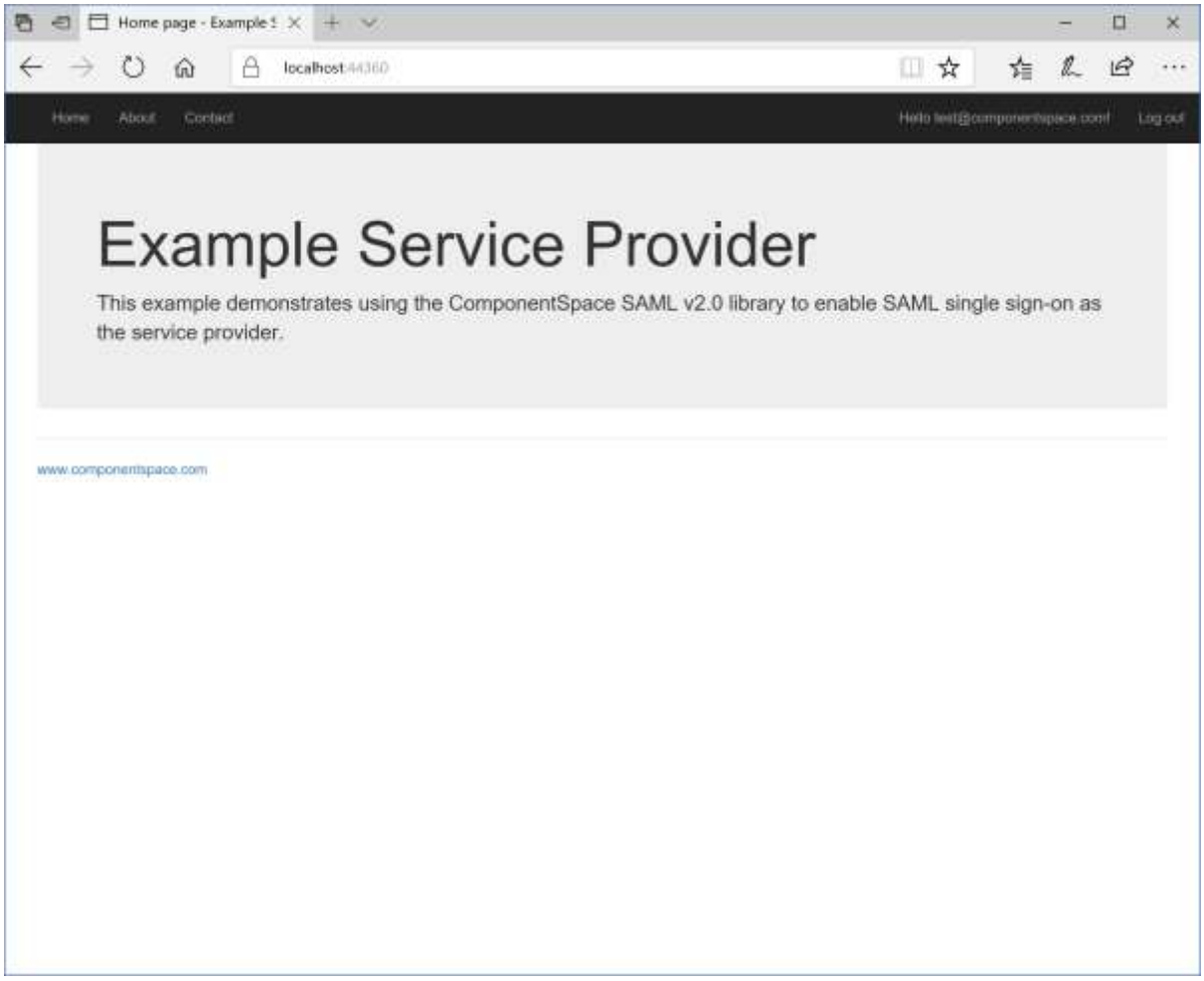
Log into ADFS.



Select the service provider and sign in.



The user is automatically logged in at the service provider.



SAML Logout

Both SP-initiated and IdP-initiated SLO are supported.

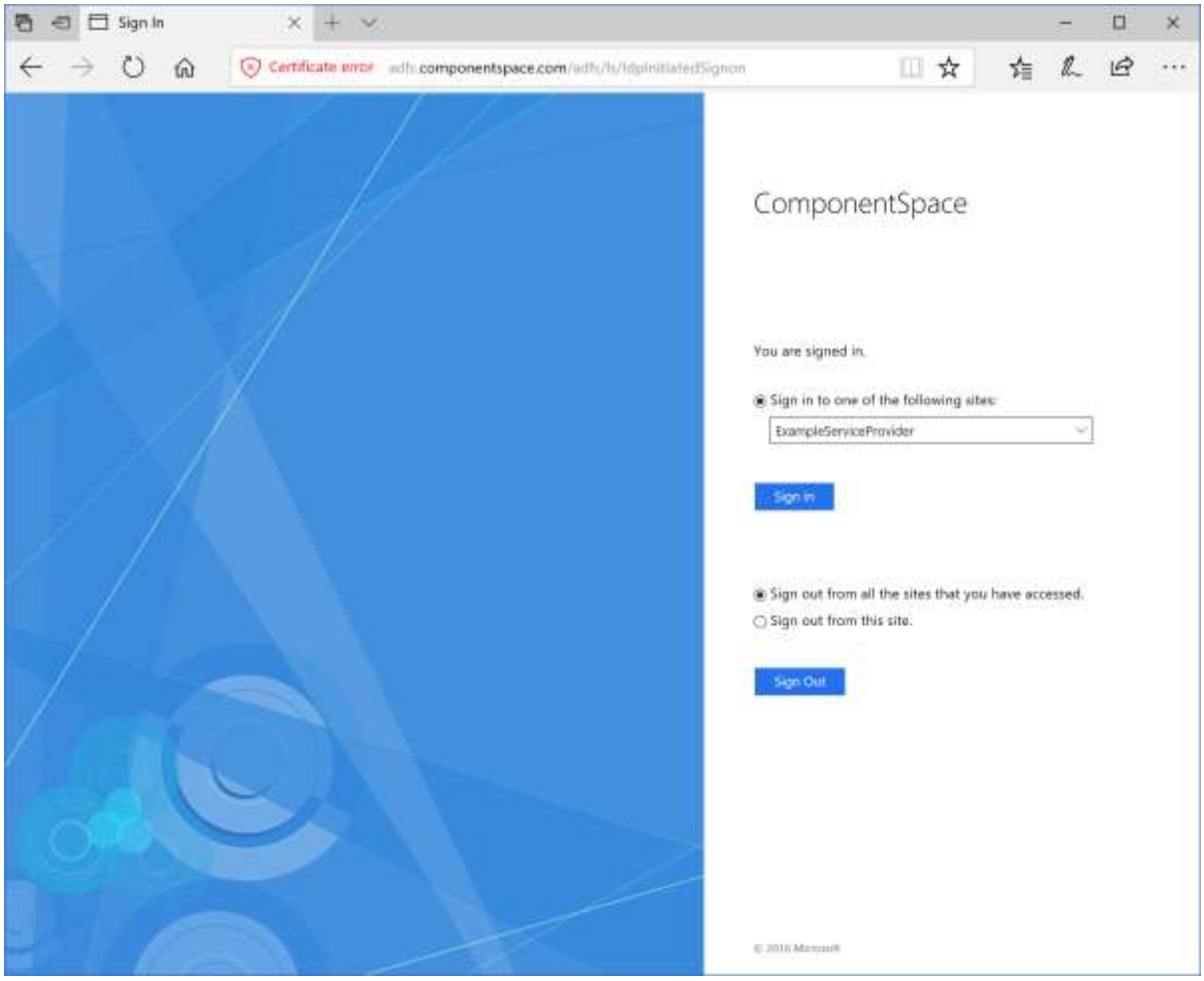
IdP-initiated SLO may be invoked from:

https://<server-name>/adfs/ls/IdpInitiatedSignon

For example:

https://adfs.componentspace.com/adfs/ls/IdpInitiatedSignon

Select to sign out from all sites.



Depending on the authentication method and the browser used, although ADFS reports logout as successful, the user may not be logged out from ADFS.

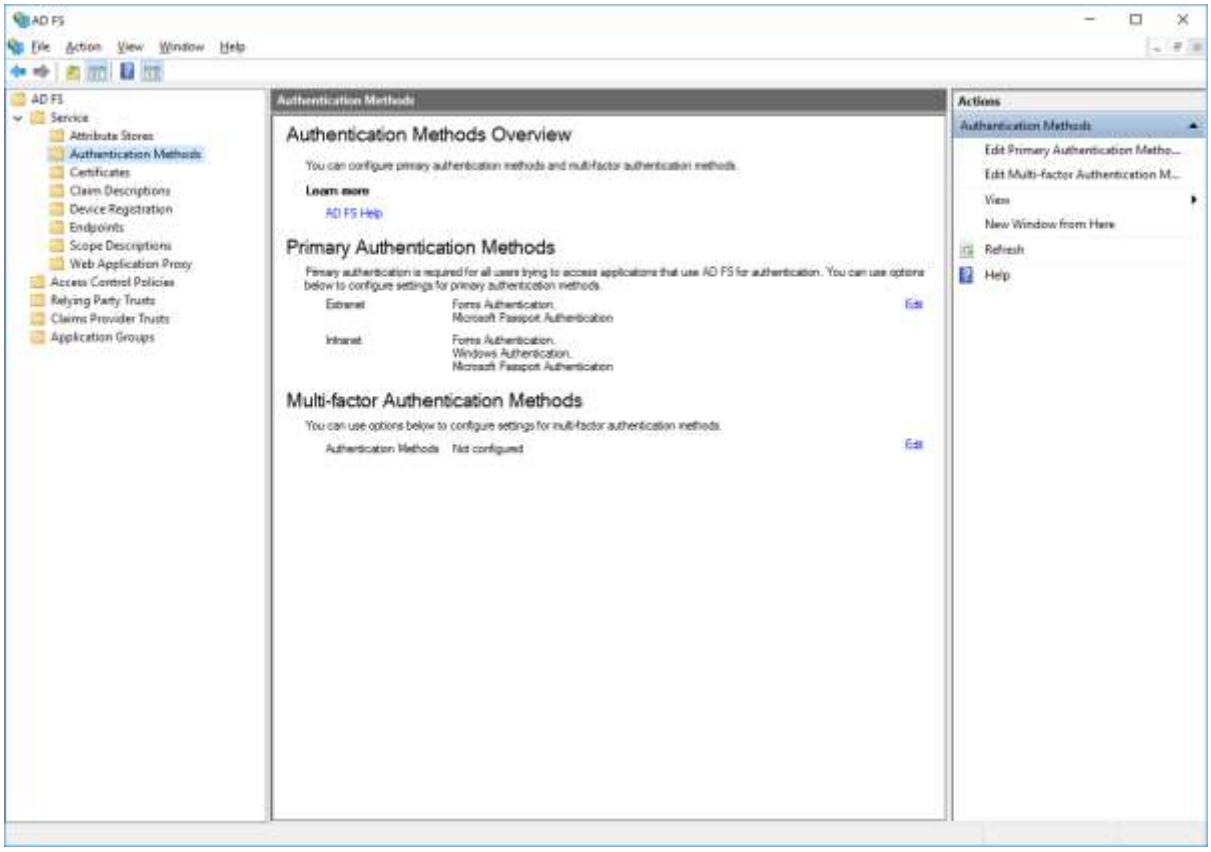
For example, with forms authentication and using Chrome, the user is logged out from ADFS.

When using Microsoft Edge, no error occurs but the user is still logged into ADFS.

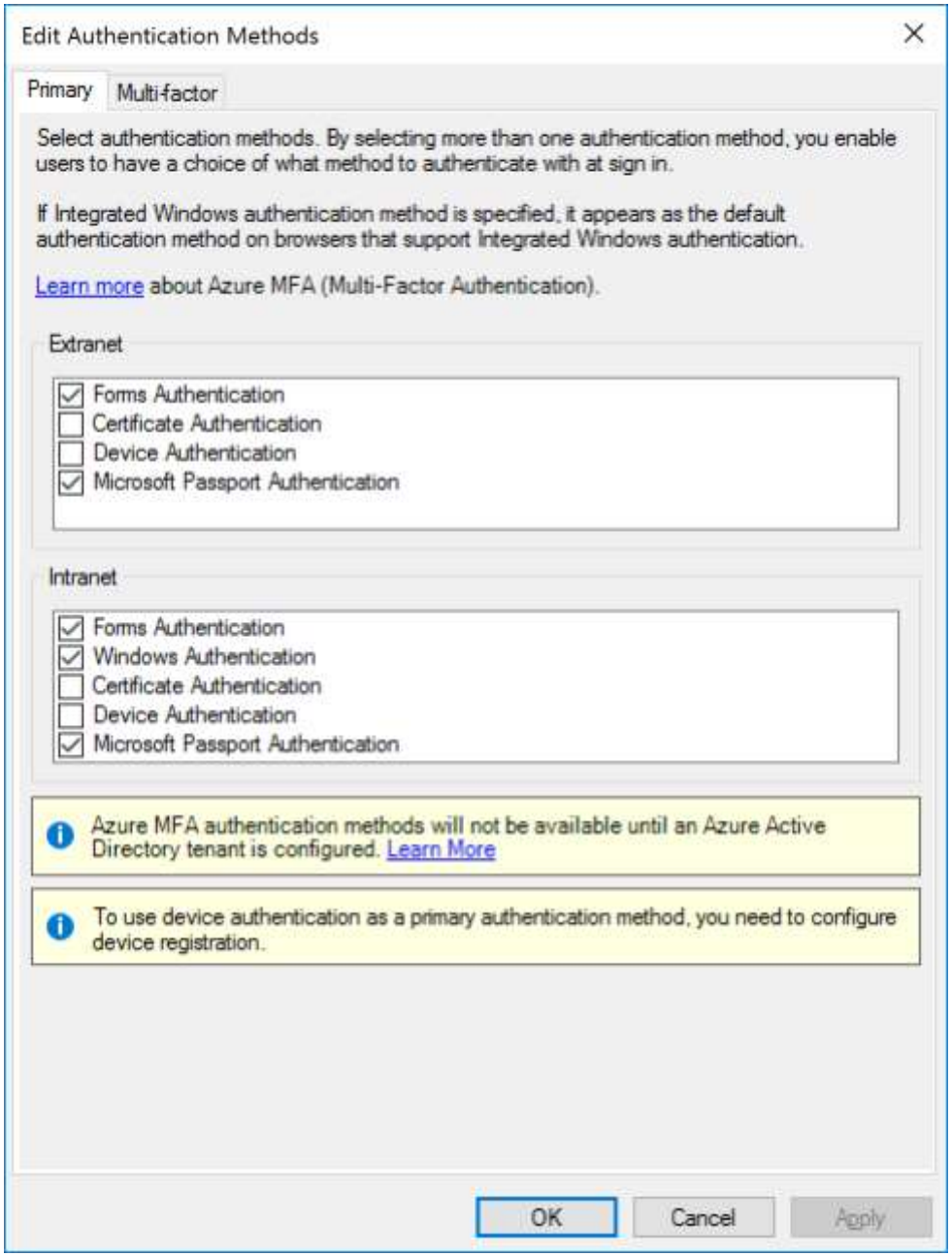
This functionality is controlled by ADFS.

ADFS Authentication Methods

ADFS supports a number of authentication methods that may be configured based on whether the user is in the intranet or not.



The default configuration is to use Windows authentication for intranet users using a browser supporting Windows integrated authentication. Otherwise, forms authentication is used.



Windows Integrated Authentication

For a user logged into the domain, Windows integrated authentication, means the user is not prompted to login again. The Windows user principal name is used instead.

If Windows integrated authentication is enabled but the user is not logged into the domain, ADFS returns a 401, unauthorized, error to the browser which will prompt the user for their credentials and send an authorization header along with the SAML authentication request to ADFS.

Note SAML logout will be successful but the user will remain logged into ADFS.

Browser Support

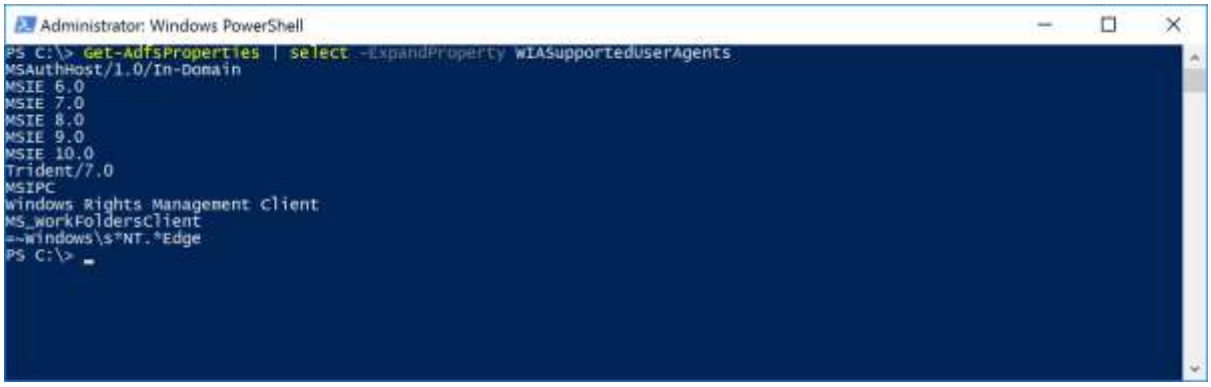
Microsoft Edge and Internet Explorer support Windows integrated authentication by default.

Support for other browsers may be enabled using the WIASupportedUserAgent setting.

https://docs.microsoft.com/en-us/windows-server/identity/ad-fs/operations/configure-ad-fs-browser-wia

The default settings support Internet Explorer and Microsoft Edge.

The "=~" syntax indicates a regular expression when matching the user agent.

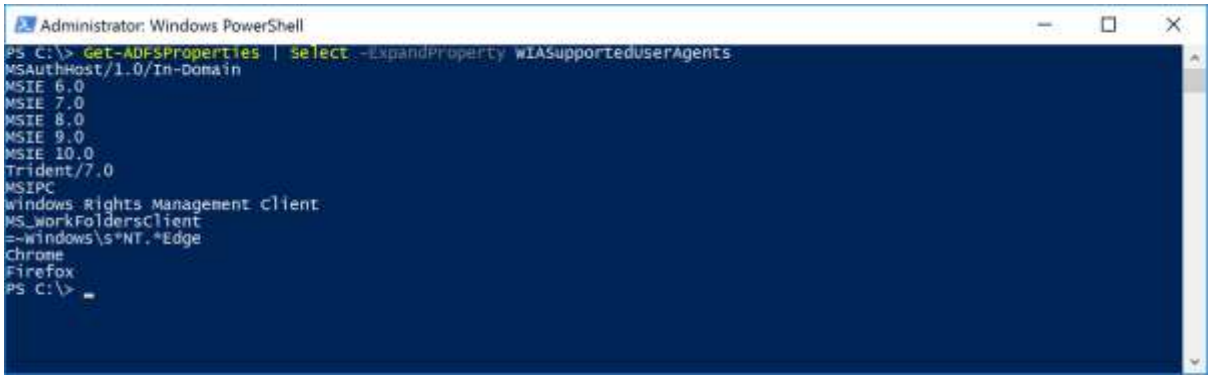


The following PowerShell command includes Chrome as a supported user agent.

Set-AdfsProperties -WIASupportedUserAgents ((Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents) + "Chrome")

The following command includes Firefox as a supported user agent.

Set-AdfsProperties -WIASupportedUserAgents ((Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents) + "Firefox")

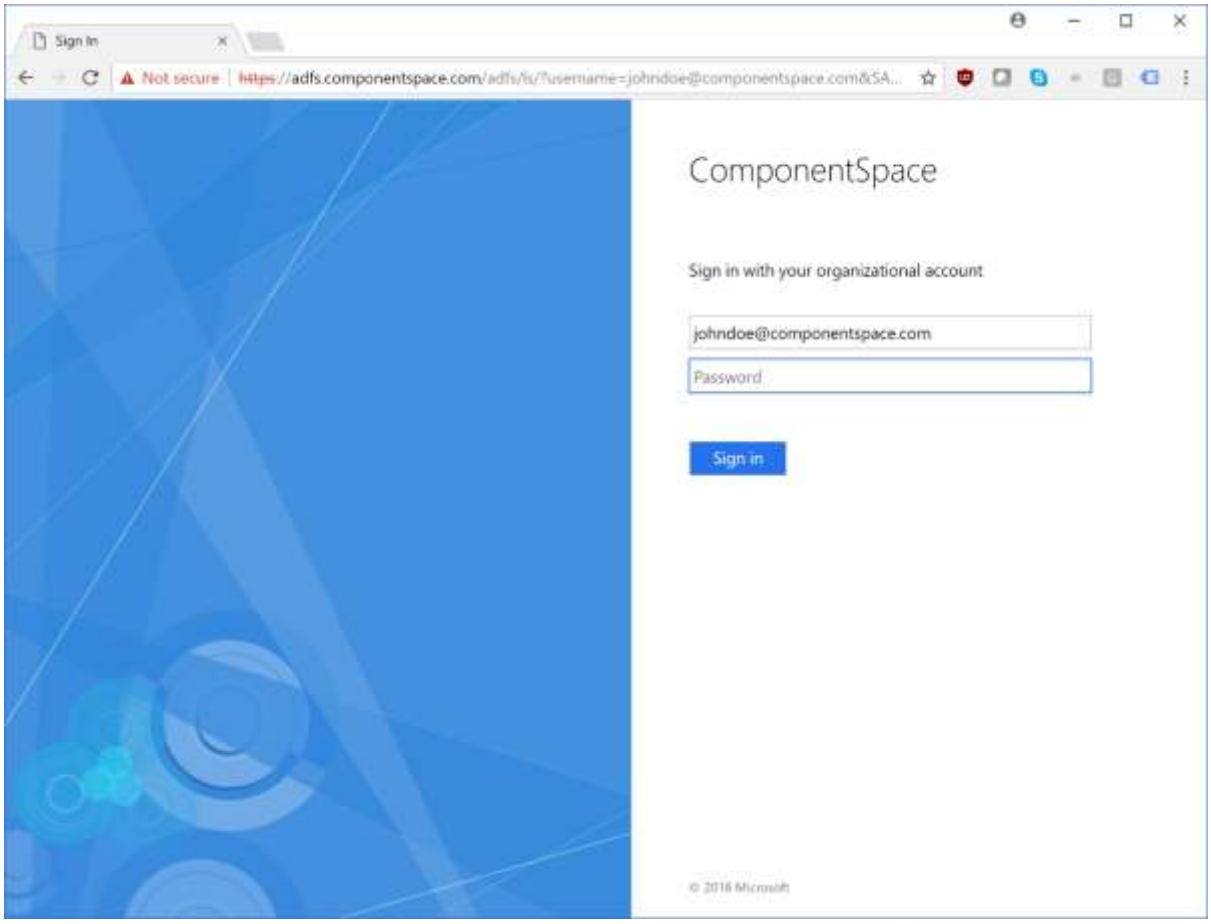


The following command removes Chrome and Firefox from the list of supported user agents.

Set-AdfsProperties -WIASupportedUserAgents (Get-ADFSProperties | Select -ExpandProperty WIASupportedUserAgents | Where-Object { $_ –ne "Chrome" -and $_ –ne "Firefox" })

Default User Name

ADFS accepts a username query string parameter that specifies the user name to include in the login form.



The syntax is:

https://<server-name>/adfs/ls/?username=<user-name>

For example:

https://adfs.componentspace.com/adfs/ls/?username=johndoe@componentspace.com

This is useful if for some reason the user has already entered their user name at the service provider.

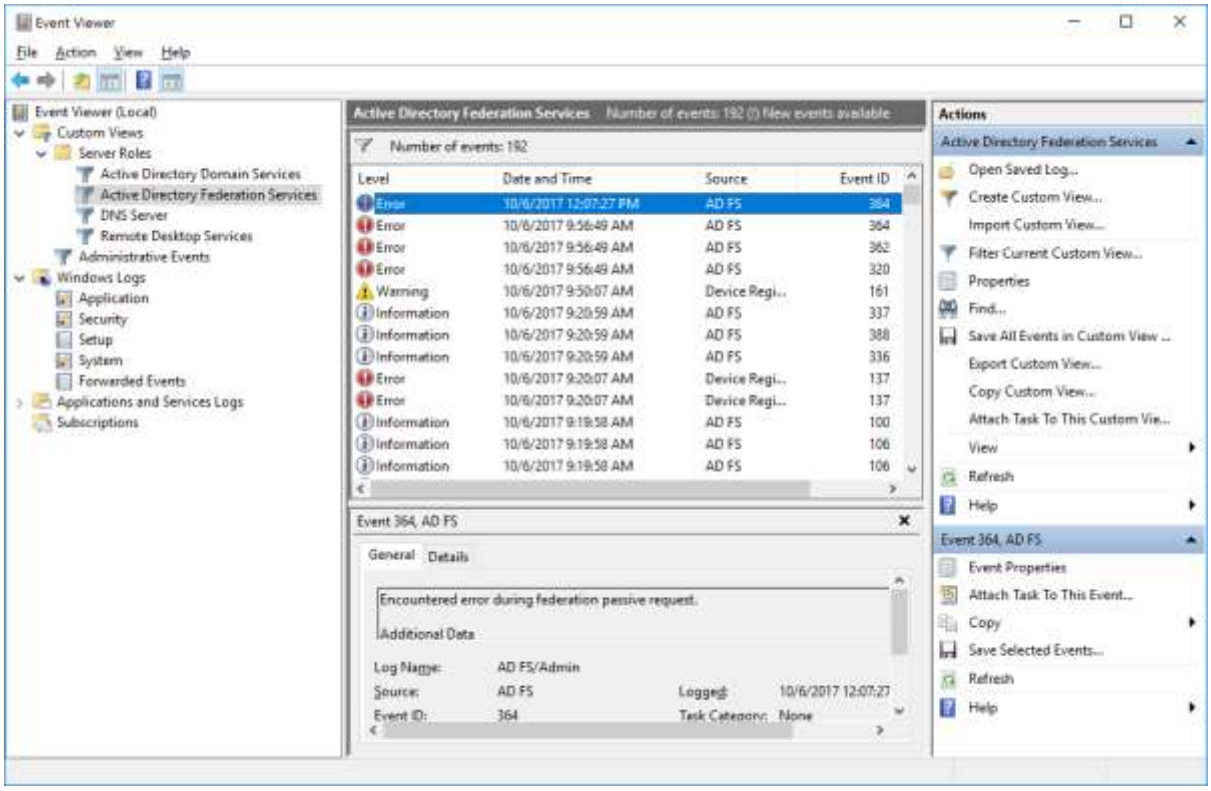
For security reasons, ADFS does not support passwords being included as a query string parameter.

The OnResolveUrl delegate may be used to update the SSO service URL with the query string parameter. Refer to the Developer Guide for details.

Troubleshooting ADFS SSO

If an error occurs, ADFS will display a generic error message in the browser or return a generic Requester/Responder error to the service provider.

To troubleshoot configuration and other problems, refer to the ADFS event log.



For more information on troubleshooting ADFS, refer to:

https://docs.microsoft.com/en-us/windows-server/identity/ad-fs/troubleshooting/ad-fs-tshoot-overview

To enable ADFS trace logging, refer to:

https://docs.microsoft.com/en-us/windows-server/identity/ad-fs/troubleshooting/ad-fs-tshoot-logging