



Single Sign On



Contents

Chapter 1: Overview	1
Overview of Single Sign-On	2
SSO Workflow	2
Chapter 2: Set up GE Digital APM SSO	3
About Setting Up GE Digital APM SSO	4
Configure Azure Active Directory as the Identity Provider (IDP)	4
Configure Identity Provider (IDP) on Active Directory	9
Chapter 3: Enable SSO	44
About Enabling GE Digital APM SSO	45
About Host Names	45
Enable SSO On Site Authentication Using Active Directory	45
Enable SSO Off-Site Authentication Using GE Digital APM Server Setup	45
Chapter 4: Configure GE Digital APM Server	48
Configure GE Digital APM Server	49
Chapter 5: Troubleshooting	51
Troubleshooting Scenarios	52
Frequently Asked Questions	54

Copyright GE Digital

© 2023 General Electric Company.

GE, the GE Monogram, and Predix are either registered trademarks or trademarks of General Electric Company. All other trademarks are the property of their respective owners.

This document may contain Confidential/Proprietary information of General Electric Company and/or its suppliers or vendors. Distribution or reproduction is prohibited without permission.

THIS DOCUMENT AND ITS CONTENTS ARE PROVIDED "AS IS," WITH NO REPRESENTATION OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF DESIGN, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. ALL OTHER LIABILITY ARISING FROM RELIANCE UPON ANY INFORMATION CONTAINED HEREIN IS EXPRESSLY DISCLAIMED.

Access to and use of the software described in this document is conditioned on acceptance of the End User License Agreement and compliance with its terms.

Chapter 1

Overview

Topics:

- [Overview of Single Sign-On](#)
- [SSO Workflow](#)

Overview of Single Sign-On

SSO is a process that allows pre-authenticated users to access GE Digital APM, without having to re-enter their credentials.

The GE Digital APM user logs on initially using a form-based enterprise login screen. SSO is a common procedure in enterprises, where a user logs in once and gains access to different applications without the need to re-enter log-in credentials at each application. SSO authentication facilitates seamless network resource usage. SSO mechanisms vary, depending on application type.

SSO advantages include:

- Eliminates credential re-authentication.
- Streamlines local and remote application and desktop workflow.
- Minimizes phishing.
- Improves compliance through a centralized database.
- Provides detailed user access reporting.

GE Digital APM supports the following types of authentication for SSO:

- **Pass-through authentication**
Enables the users to enter their Windows credentials in the GE Digital APM login page and GE Digital APM validates the credentials against Active Directory.
- **Security Assertion Markup Language (SAML) authentication**
Enables the users to navigate to the SSO URL (hosted on the APM Application Server) that redirects the browser to a preconfigured URL (not hosted on the APM Application Server), which is the Identity Provider (IDP). If there are multiple databases, and when the user selects a database, the user account is then authenticated and the IDP provides the web browser a token through a cookie. If the token is valid, the user can access GE Digital APM.

SSO Workflow

This workflow provides the basic, high-level steps for using this module. The steps and links provided in the workflow do not necessarily reference every possible procedure.

Procedure

1. [Set up GE Digital APM SSO by configuring an identity provider.](#)
2. [Enable SSO on-site or off-site authentication.](#)
3. [Configure the GE Digital APM server.](#)

Chapter 2

Set up GE Digital APM SSO

Topics:

- [About Setting Up GE Digital APM SSO](#)
- [Configure Azure Active Directory as the Identity Provider \(IDP\)](#)
- [Configure Identity Provider \(IDP\) on Active Directory](#)

About Setting Up GE Digital APM SSO

About Setting up GE Digital APM SSO

To set up GE Digital APM SSO, perform one of the following tasks:

- [Configure Azure Active Directory as the Identity Provider \(IDP\)](#)
- [Configure IDP on Active Directory](#)

Configure Azure Active Directory as the Identity Provider (IDP)

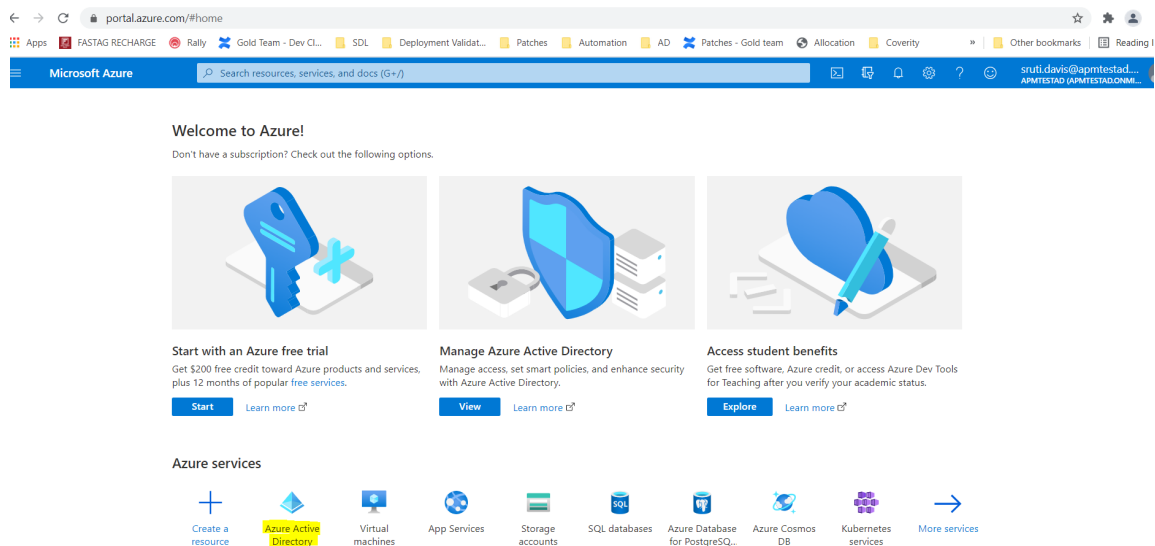
Configure Azure Active Directory as the Identity Provider (IDP)

Before You Begin

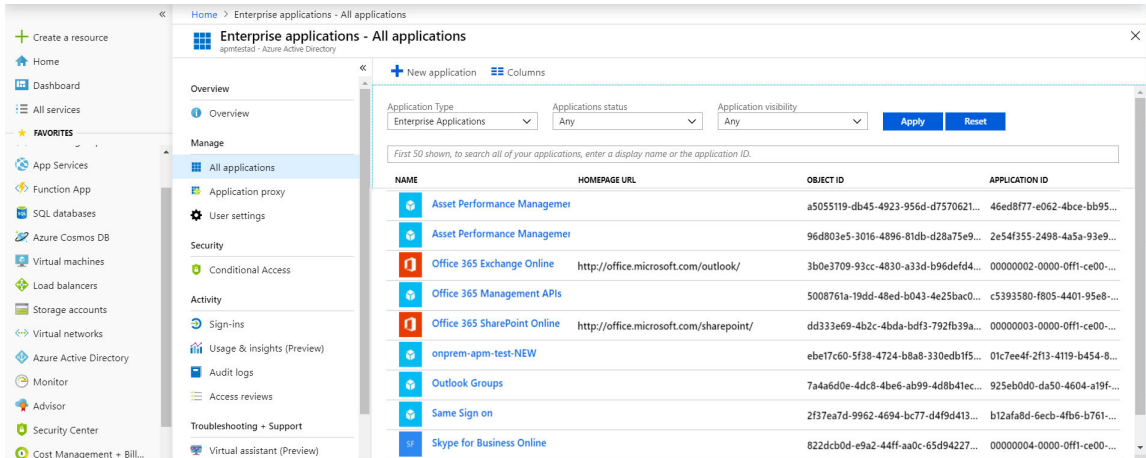
You must have an Azure Active Directory (Azure AD) instance.

Procedure

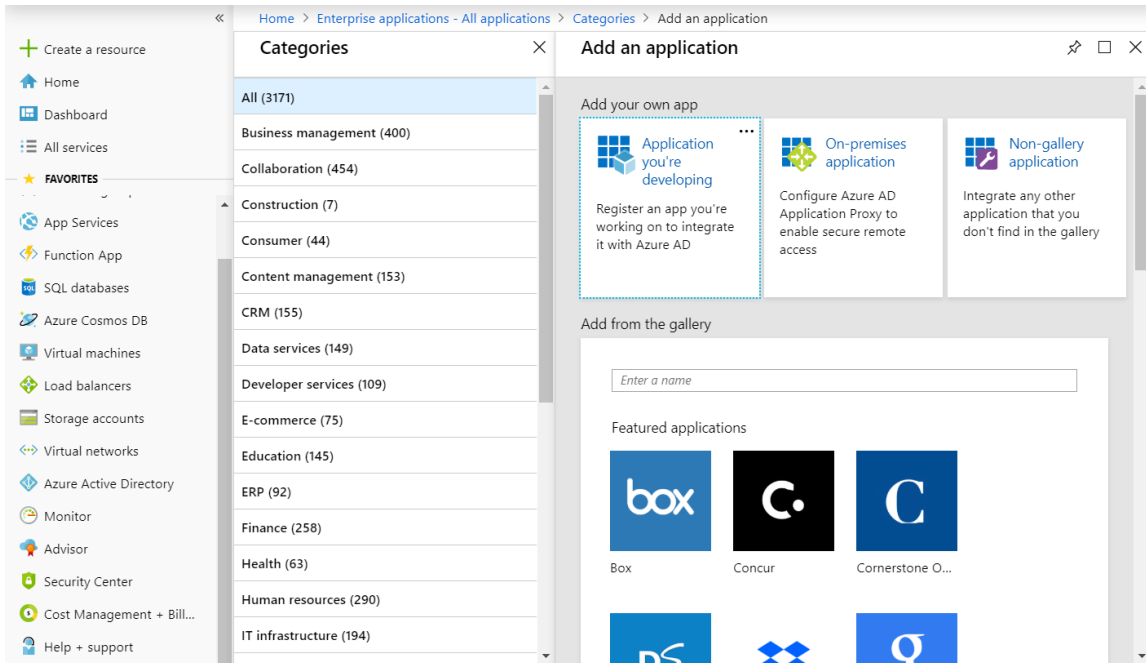
1. Sign in to the Azure portal and select **Azure Active Directory**.



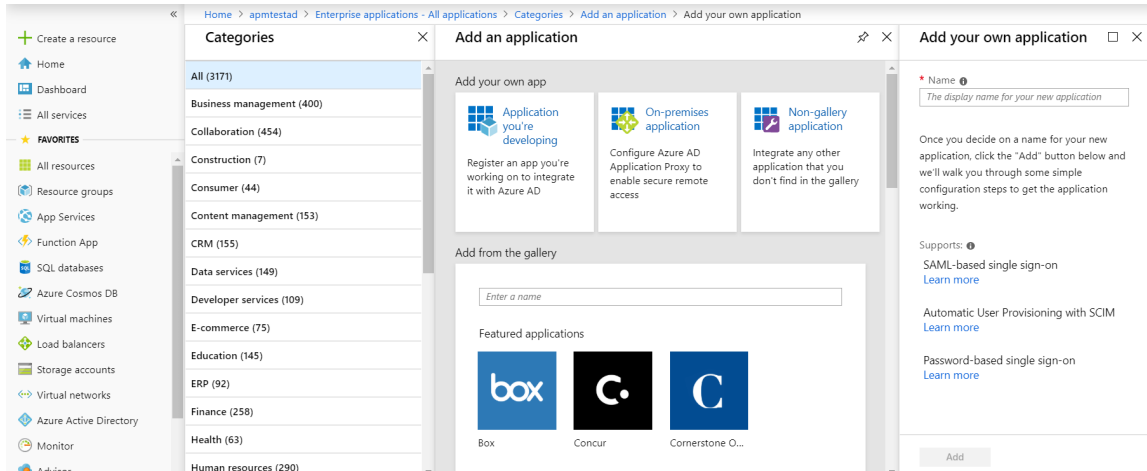
2. In the navigation pane, select **Enterprise applications**.
The **Enterprise applications – All applications** page appears.



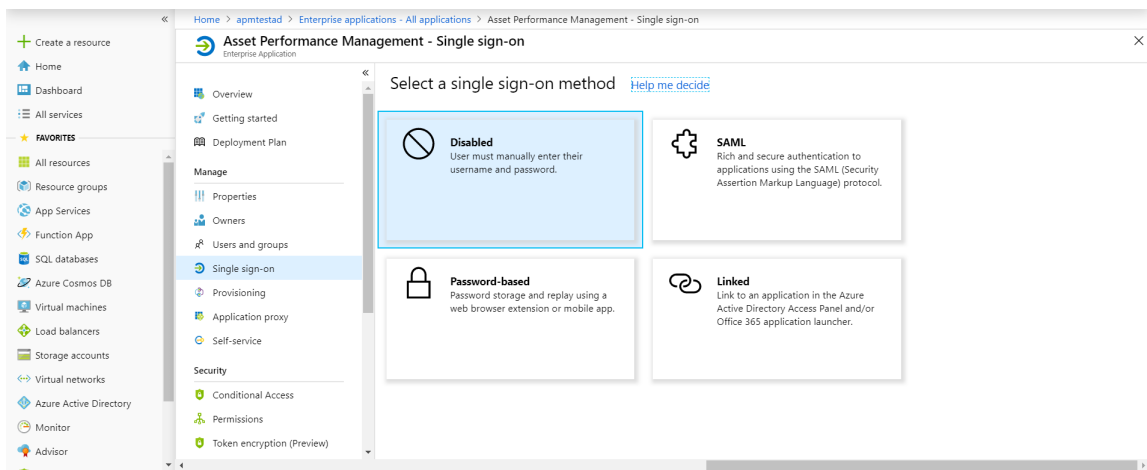
3. Select **New application**.
The **Add an application** section appears.



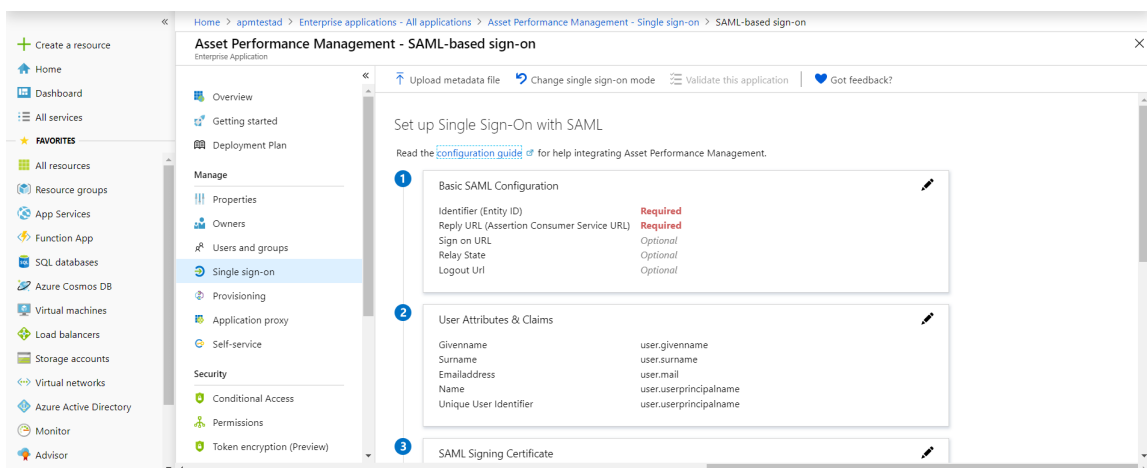
4. Select **Non-gallery application**.
The **Add your own application** section appears.



- In the **Name** box, enter a name for the application that you want to configure with Azure AD, and then select **Add**.
The page of the added application appears.
- In the navigation pane of the application page, select **Single sign-on**.
The **Select a single sign-on method** section appears.

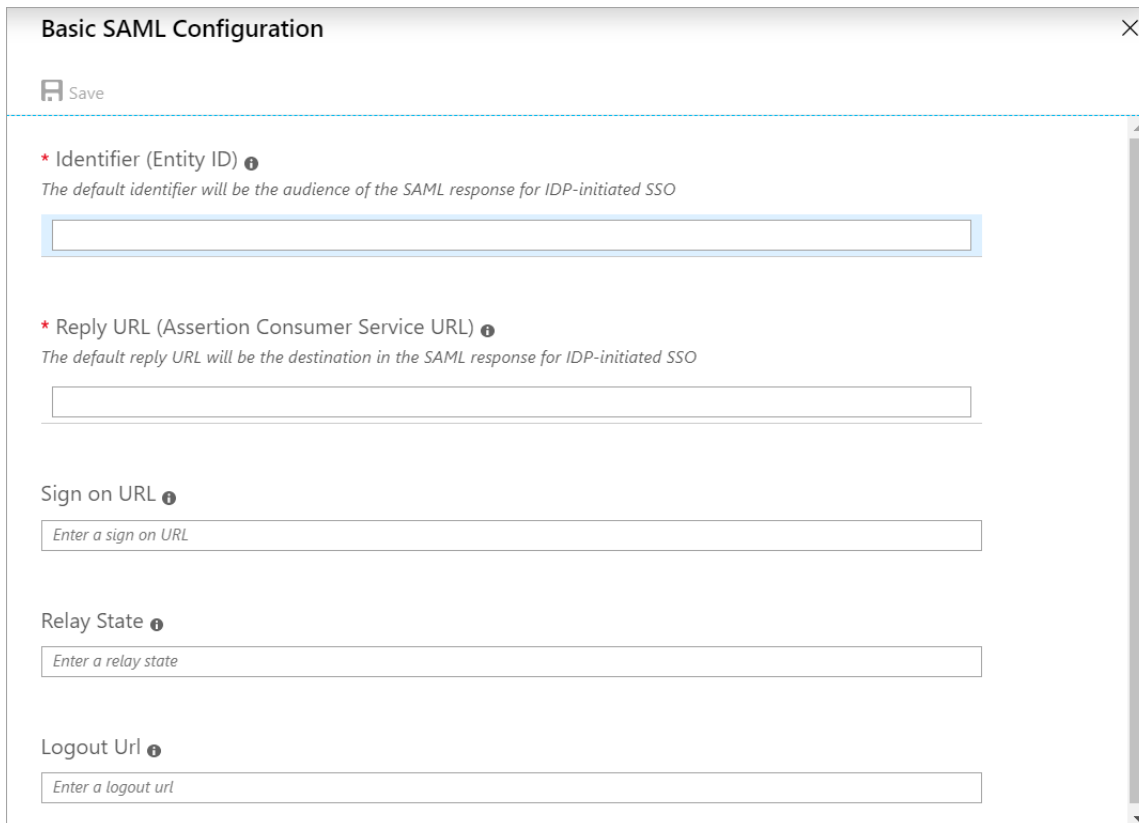



- Select **SAML**.
The **Set up Single Sign-On with SAML** section appears.




- In the **Basic SAML Configuration** section, select  .
The **Basic SAML Configuration** window appears.

Basic SAML Configuration ✕


 Save


*** Identifier (Entity ID)** 


The default identifier will be the audience of the SAML response for IDP-initiated SSO

*** Reply URL (Assertion Consumer Service URL)** 

The default reply URL will be the destination in the SAML response for IDP-initiated SSO

Sign on URL 

Relay State 

Logout Url 

- Enter the following details.

Identifier (Entity ID)	Enter a unique ID. Note: This ID will be used in the <code>saml.json</code> file for the service provider name. Therefore, note the ID.
Reply URL (Assertion Consumer Service URL)	The application callback URL where the response will be posted. Enter the URL in the following format: <code>https://<GE Digital APM Server Name>/Meridium/api/core/security/ssologinauth</code> , where <i><GE Digital APM Server Name></i> is the name of the GE Digital APM server.
Sign on URL	The application URL, which initiates the same sign-on. Enter the URL in the following format: <code>https://<GE Digital APM Server Name>/meridium/index.html</code> , where <i><GE Digital APM Server Name></i> is the name of the GE Digital APM server.

- Select **Save**.
- In the **SAML Signing Certificate** section, select **Download** corresponding to Certificate (Base 64).
- From the **Set up <Identifier>**, section copy the Login URL and Azure AD Identifier.

Set up sdsso

You'll need to configure the application to link with Azure AD.

Login URL	https://login.microsoftonline.com/78dd76d6-f3b7...
Azure AD Identifier	https://sts.windows.net/78dd76d6-f3b7-4b89-9ef...
Logout URL	https://login.microsoftonline.com/78dd76d6-f3b7...

Note: The Login URL and Azure AD Identifier will be used in the `saml.json` file for `SingleSignOnServiceURL` and `PartnerIdentityProviderConfigurations Name`, respectively.

13. In the application server, copy the downloaded Certificate (Base 64) to `C:\Program Files\Meridium\ApplicationServer\api`. Please refer to section [Install the Token Signing idp.cer Certificate on the Application Server](#) on page 40, steps 5 - 8 for installing the certificate.

14. Modify the `saml.json` file as follows:

- `LocalServiceProviderConfiguration Name` with the value that you entered and noted for the **Identifier (Entity ID)** box.
- `PartnerIdentityProviderConfigurations Name` with the Azure AD Identifier.
- `SingleSignOnServiceURL` with the Login URL.
- `AssertionConsumerServiceUrl` with the URL that you entered in the **Reply URL (Assertion Consumer Service URL)** box.
- `PartnerCertificates FileName` with the downloaded certificate name.

```
{
  "SAML": {
    "$schema": "https://www.componentSpace.com/schemas/saml-
config-schema-v1.0.json",
    "Configurations": [
      {
        "LocalServiceProviderConfiguration": {
          "Name": "sdsso",
          "AssertionConsumerServiceUrl": "https://<GE
Digital APM Server Name>/Meridium/api/core/security/ssologinauth",
          "LocalCertificates": [
            {
              "FileName": "sp.pfx",
              "Password": "password"
            }
          ]
        },
        "PartnerIdentityProviderConfigurations": [
          {
            "Name": "https://sts.windows.net/78dd76d6-
f3b7-4b89-9efc-ef8d5483b7ea/",
            "Description": "Azure AD",
            "SignAuthnRequest": true,
            "WantSamlResponseSigned": false,
            "WantAssertionSigned": true,
            "WantAssertionEncrypted": false,
            "UseEmbeddedCertificate": false,
            "SingleSignOnServiceUrl": "https://
login.microsoftonline.com/78dd76d6-f3b7-4b89-9efc-ef8d5483b7ea/
saml2",
            "DigestAlgorithm": "http://www.w3.org/
2001/04/xmlenc#sha256",
            "SignatureAlgorithm": "http://www.w3.org/
```

```
2001/04/xmlsig-more#rsa-sha256",
    "PartnerCertificates": [
      {
        "FileName": "sdsso.cer"
      }
    ]
  }
]
}
}
```

15. Add users to the enterprise application by accessing the **Users and groups** section.

- a) Select Users and groups section in the left navigation pane.
- b) Click on Add user/group button to add a new user to this enterprise application. Search for the user in the Users list and then click on Assign.

Users are added to the enterprise application.

Next Steps

- [Enable SSO](#)

Configure Identity Provider (IDP) on Active Directory

About Configuring Identity Provider (IDP) on Active Directory

About This Task

You must configure IDP on Active Directory using the Active Directory Federation System (AD FS) Management Console.

Note: The strings and the URLs in AD FS are case-sensitive.

To configure IDP on Active Directory, you must perform the following tasks:

Procedure

1. [Add Relying Party Trusts](#) on page 9
2. [Add Claim Rules](#) on page 20
3. [Add Certificates](#) on page 26
4. [Federation Service Identifier from ADFS](#) on page 42

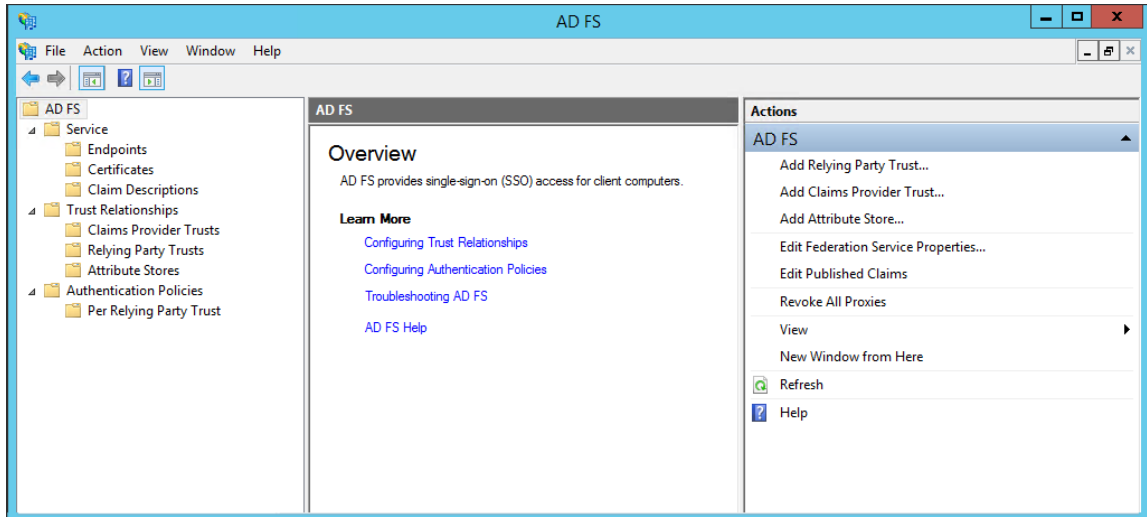
Add Relying Party Trusts

Before You Begin

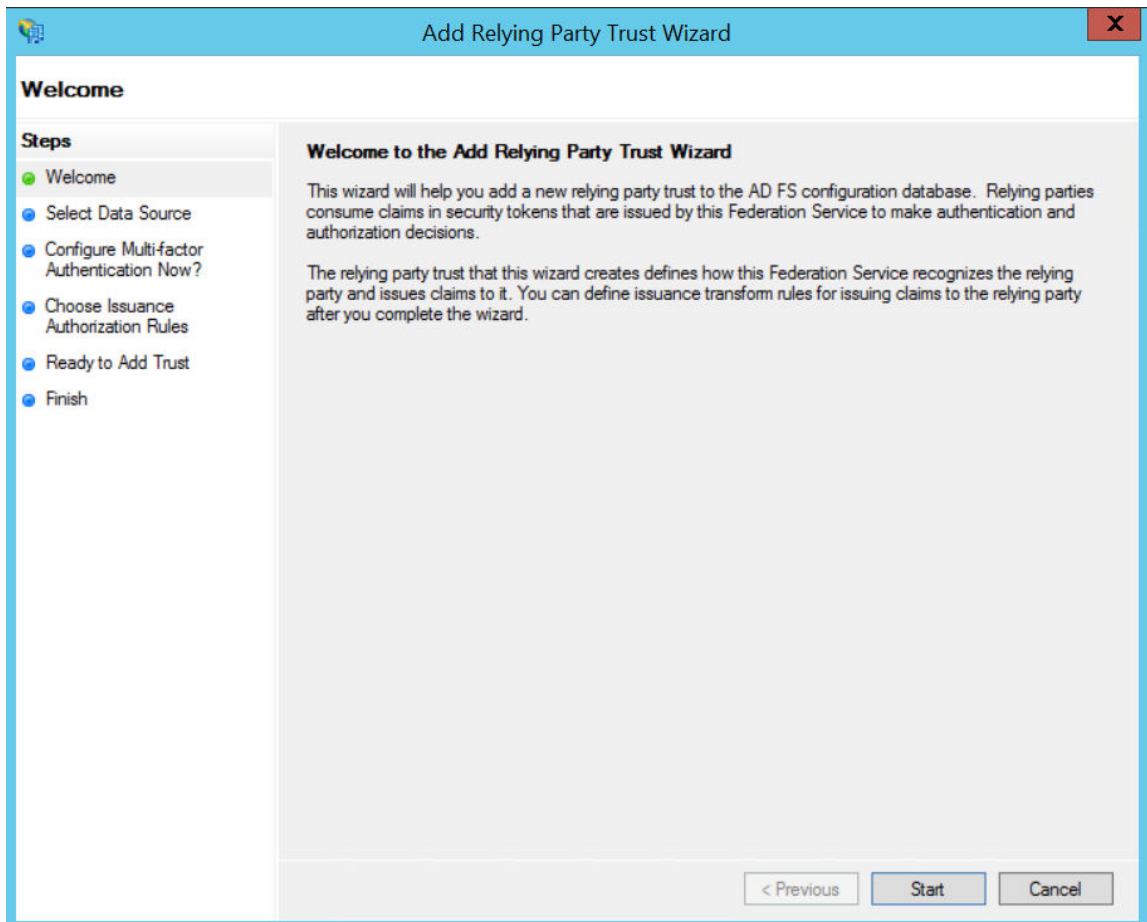
- You must have administrative privileges to configure AD FS.
- Ensure that the /adfs/ls endpoint exists for SAML v2.0.
 - Note:** To add adfs/ls endpoint, refer to the AD FS documentation.
- Ensure that the token encrypting certificates exist.

Procedure

1. Access **Control Panel**, then select **System and Security**, and then select **Administrative Tools**.
2. Select **AD FS Management**.
The **AD FS** window appears.



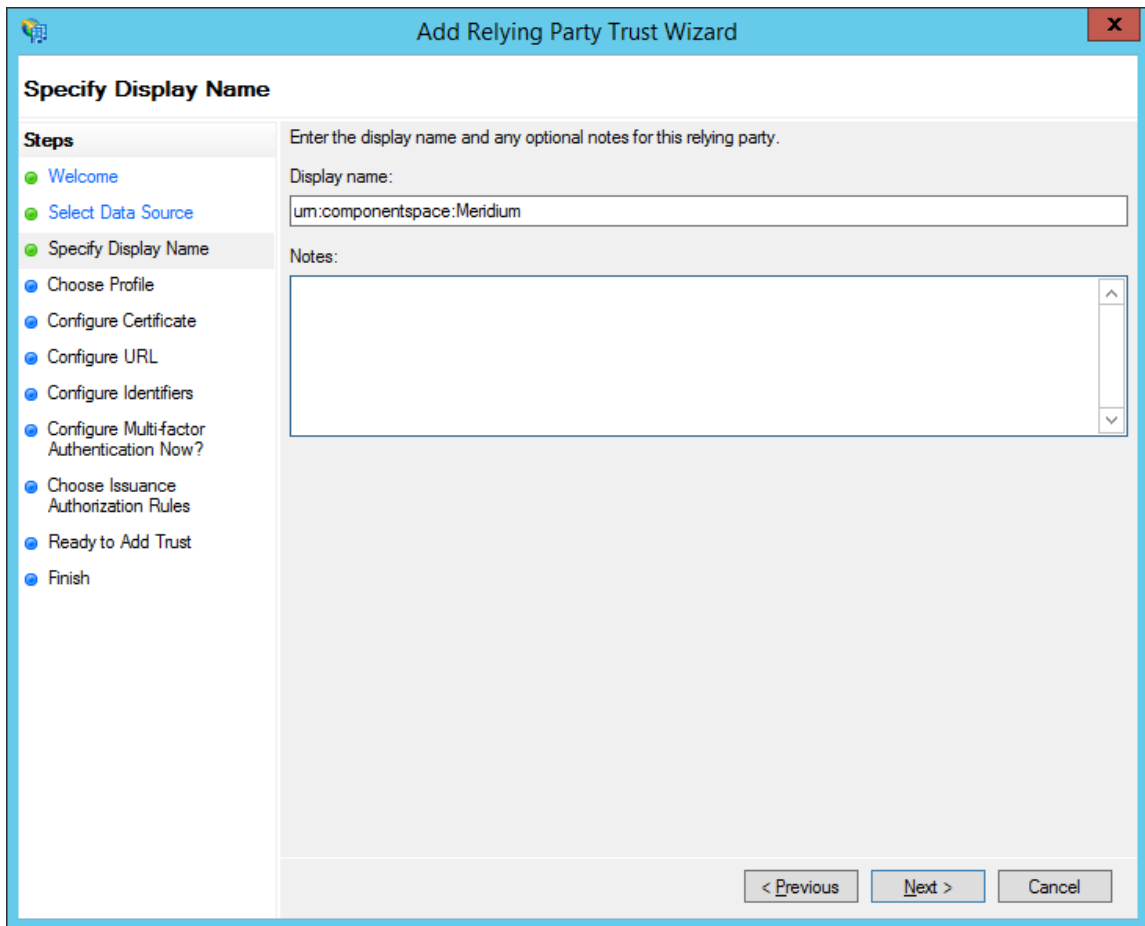
3. In the **Actions** section, select **Add Relying Party Trust**.
The **Add Relying Party Trust Wizard** appears.



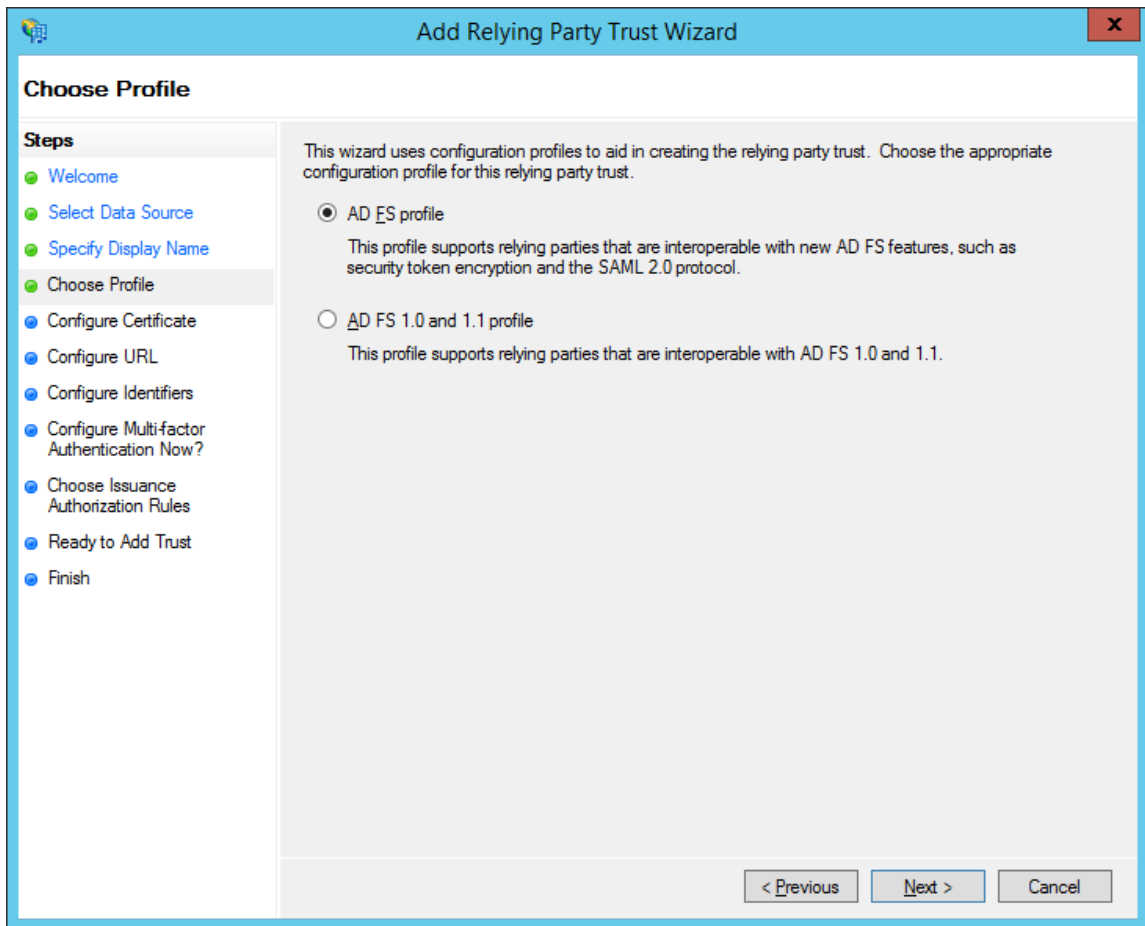
4. Select **Start**.
The **Select Data Source** page appears.

The screenshot shows a Windows-style dialog box titled "Add Relying Party Trust Wizard" with a close button (X) in the top right corner. The main title of the dialog is "Select Data Source". On the left side, there is a "Steps" list with the following items: Welcome (green dot), Select Data Source (green dot and highlighted), Specify Display Name (blue dot), Choose Profile (blue dot), Configure Certificate (blue dot), Configure URL (blue dot), Configure Identifiers (blue dot), Configure Multi-factor Authentication Now? (blue dot), Choose Issuance Authorization Rules (blue dot), Ready to Add Trust (blue dot), and Finish (blue dot). The main area of the dialog contains the instruction: "Select an option that this wizard will use to obtain data about this relying party:". There are three radio button options: 1. "Import data about the relying party published online or on a local network" (unselected). Below it is the text: "Use this option to import the necessary data and certificates from a relying party organization that publishes its federation metadata online or on a local network." and a text box labeled "Federation metadata address (host name or URL):" with the example "Example: fs.contoso.com or https://www.contoso.com/app". 2. "Import data about the relying party from a file" (unselected). Below it is the text: "Use this option to import the necessary data and certificates from a relying party organization that has exported its federation metadata to a file. Ensure that this file is from a trusted source. This wizard will not validate the source of the file." and a text box labeled "Federation metadata file location:" with a "Browse..." button to its right. 3. "Enter data about the relying party manually" (selected). Below it is the text: "Use this option to manually input the necessary data about this relying party organization." At the bottom right of the dialog, there are three buttons: "< Previous", "Next >", and "Cancel".

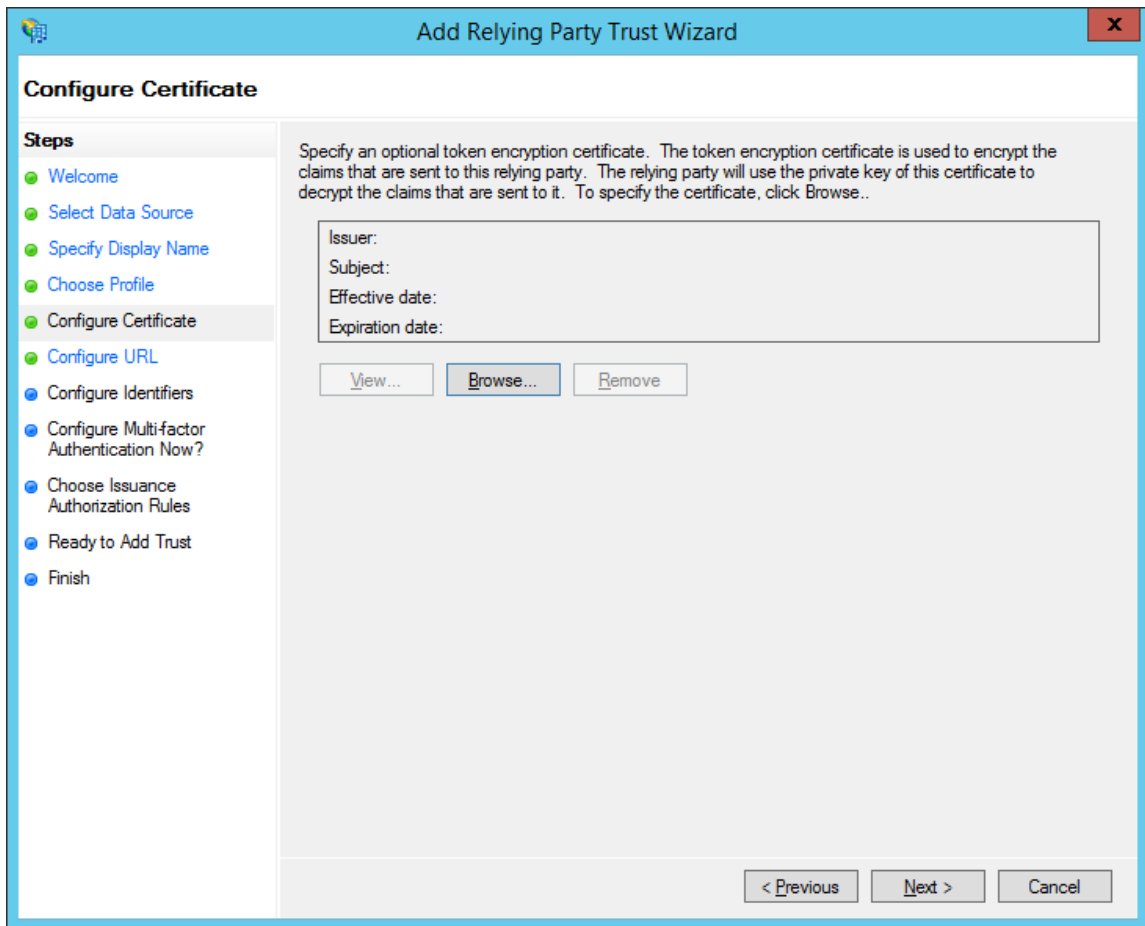
5. Select **Enter data about relying party manually**, and then select **Next**.
The **Specify Display Name** page appears.



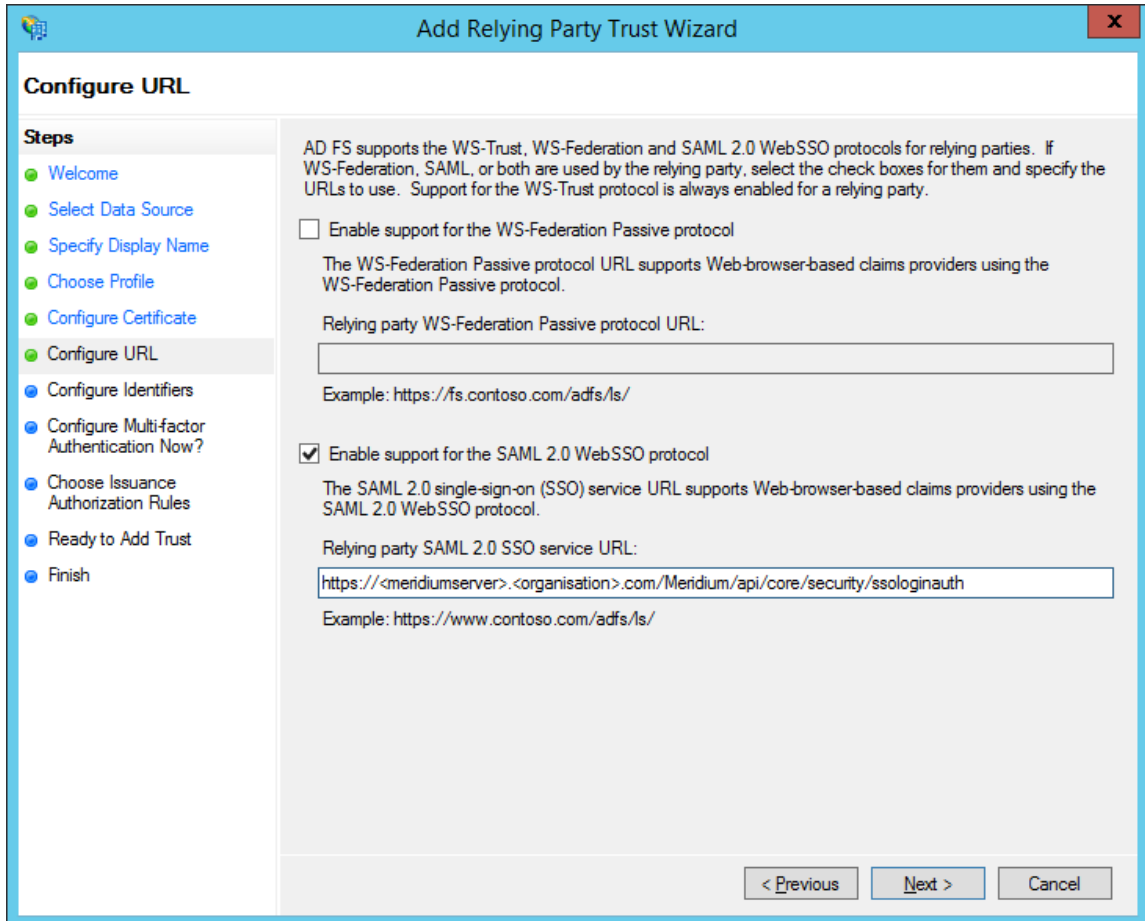
6. In the **Display name** box, enter **urn:componentspace:Meridium**, and then select **Next**. The **Choose Profile** page appears.



7. Select the **AD FS profile** option, and then select **Next**. The **Configure Certificate** page appears.



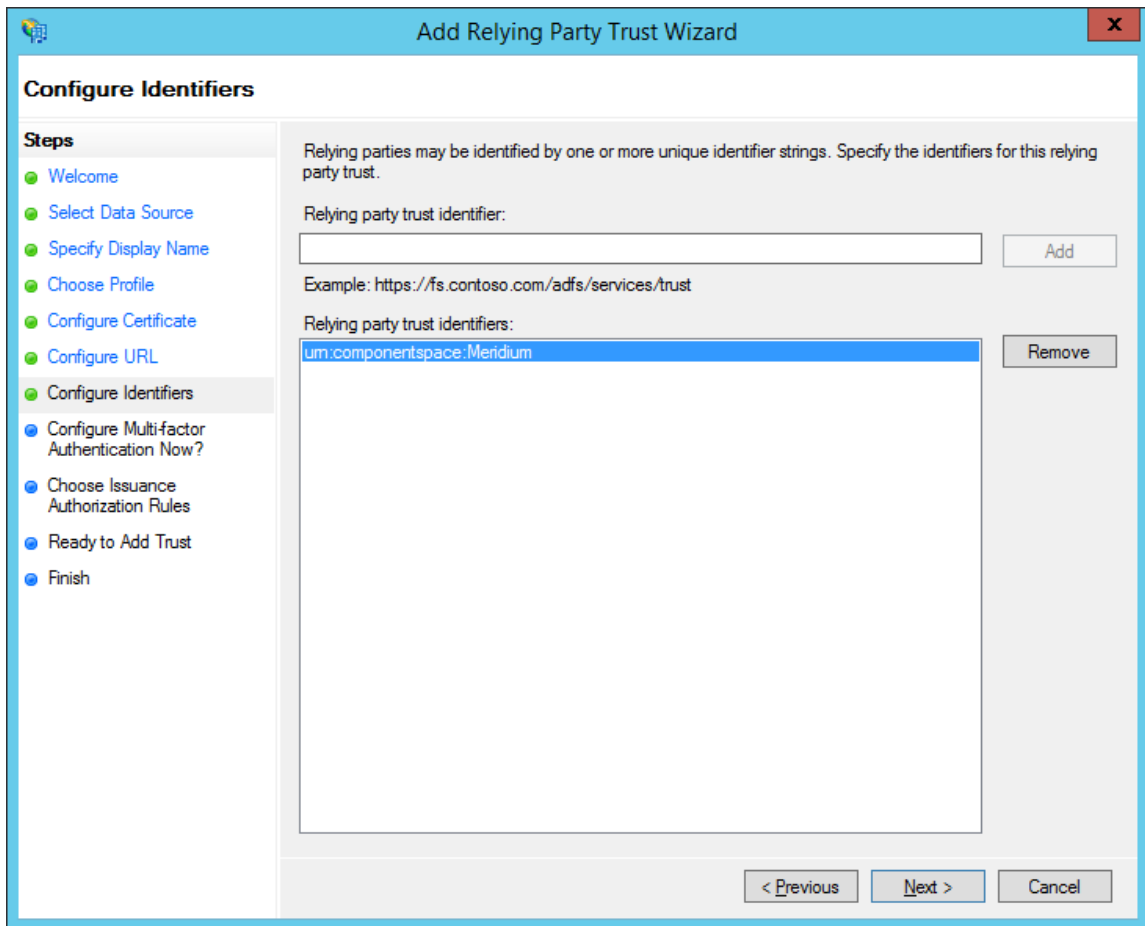
8. Select **Next**.
The **Configure URL** page appears.



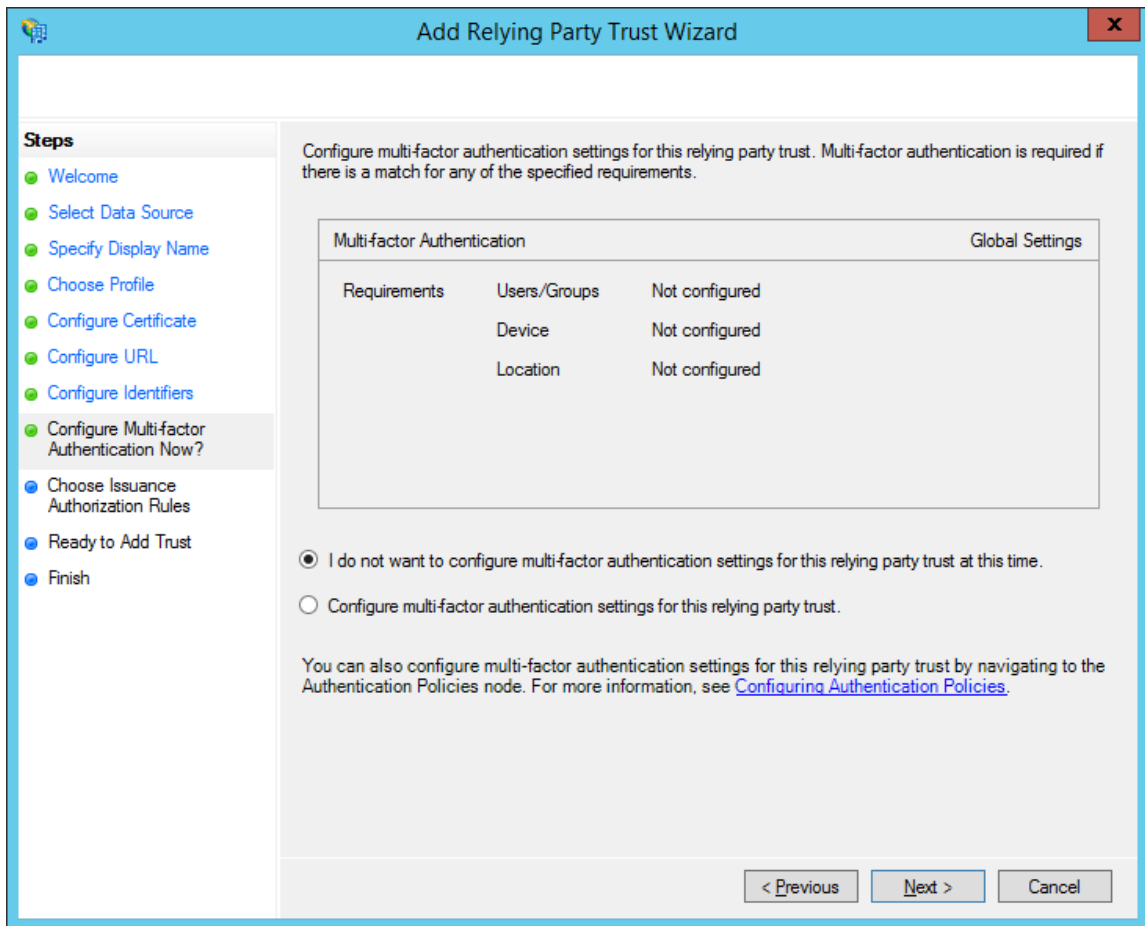
9. Select the **Enable Support for the SAML 2.0 WebSSO protocol** check box.
10. In the **Relying Party SAML 2.0 SSO service URL** box, enter `https://<GE Digital APM Server Name>/Meridium/api/core/security/ssologinauth`, and then select **Next**.

Note: The word Meridium is case-sensitive. Therefore, ensure that the first letter of the word is capitalized. Also, the URL must be same as the AssertionConsumerServiceUrl in the `saml.json` file.

The **Configure Identifiers** page appears.

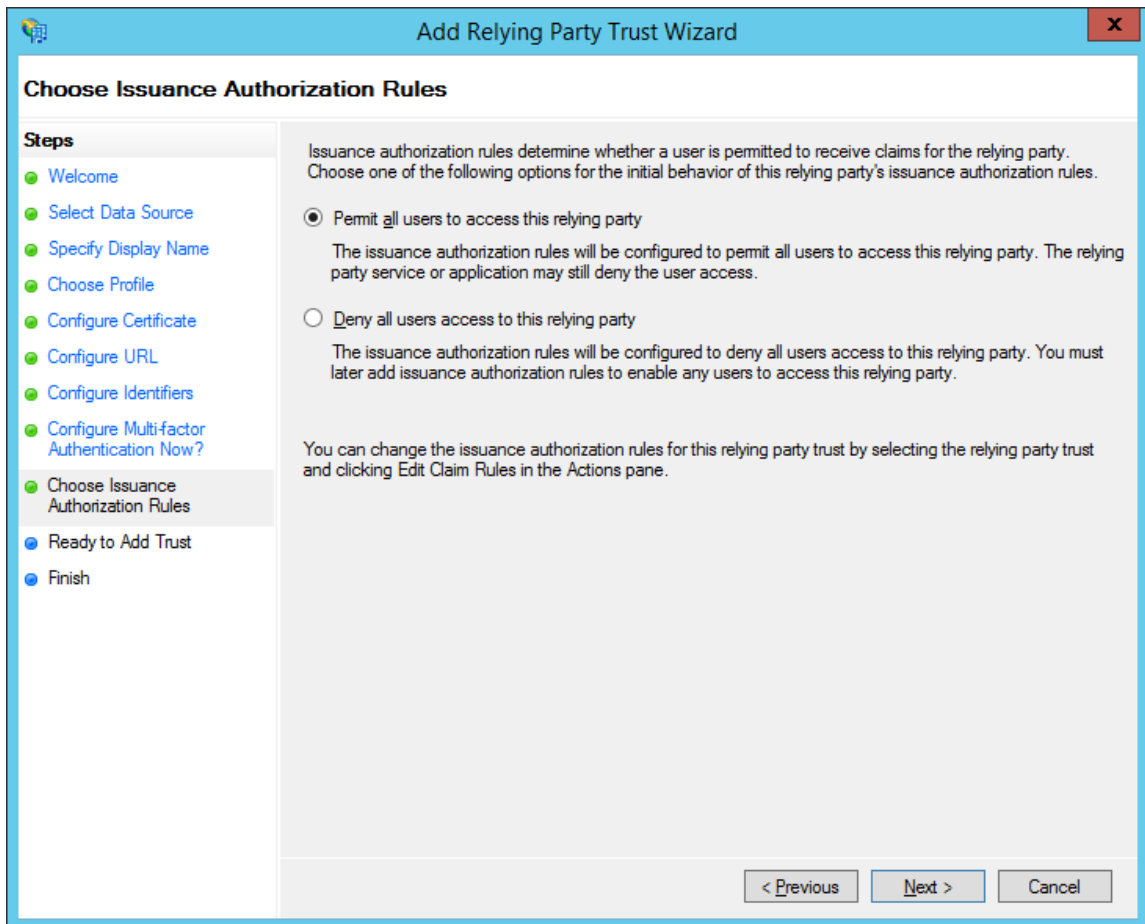


11. In the **Relying party trust identifier** box, enter `urn:componentSpace:Meridium`, then select **Add**, and then select **Next**.
The **Configure Multi-factor Authentication Now** page appears.

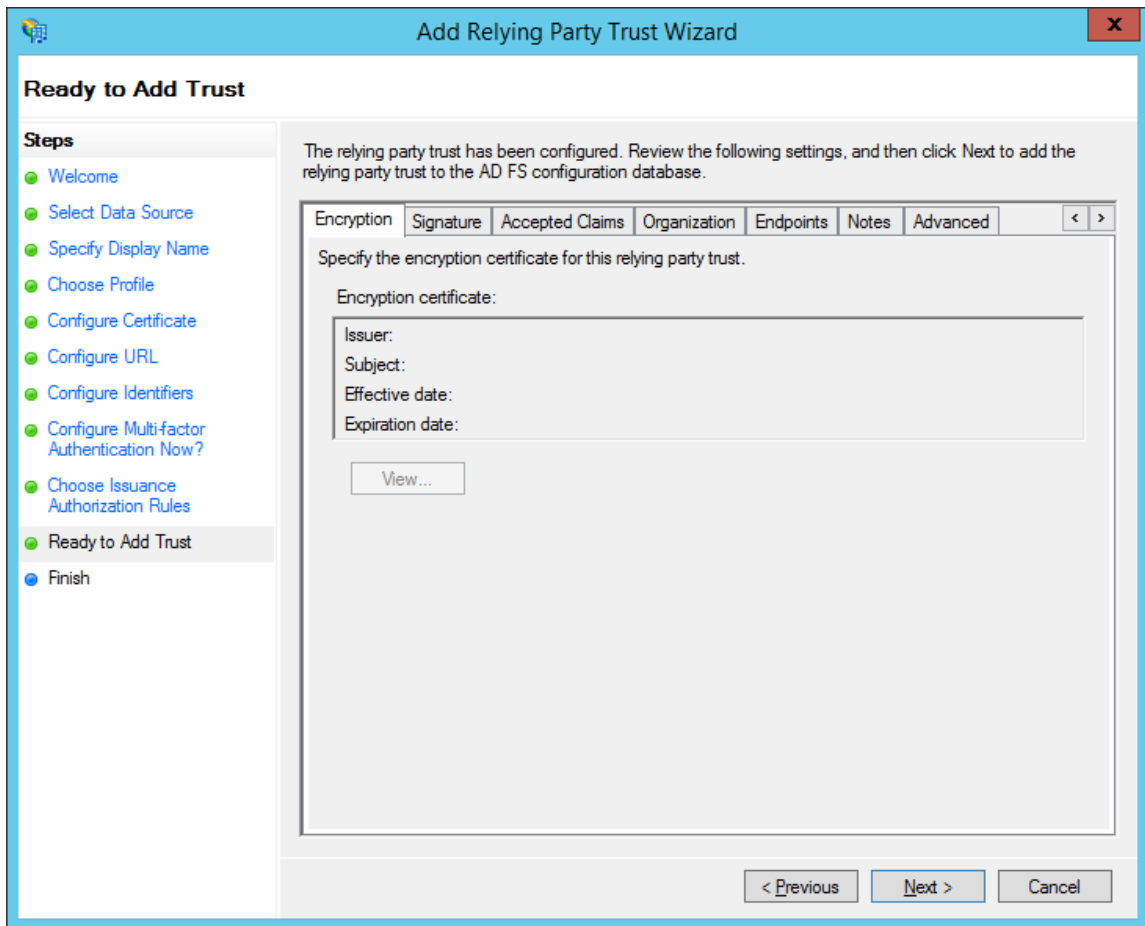


12. Select **I do not want to configure multi-factor authentication settings for this relying party trust at this time**, and then select **Next**.

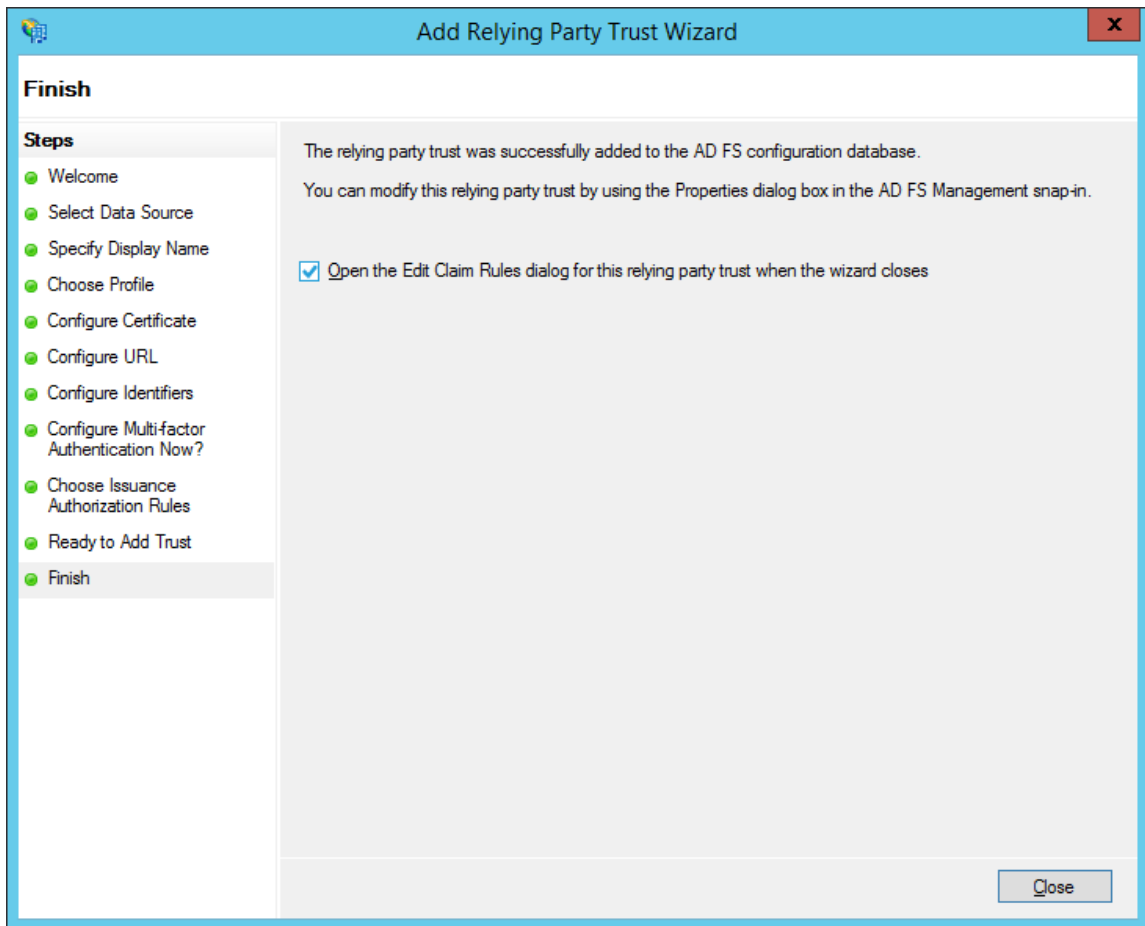
The **Choose Issuance Authorization Rules** page appears.



13. Select **Permit all users to access this relying party**, and then select **Next**. The **Ready to Add Trust** page appears.



14. Select **Next**.
The **Finish** page appears.



15. Clear the **Open the Edit Claim Rules dialog for this relying party trust when the wizard closes** check box, and then select **Close**.

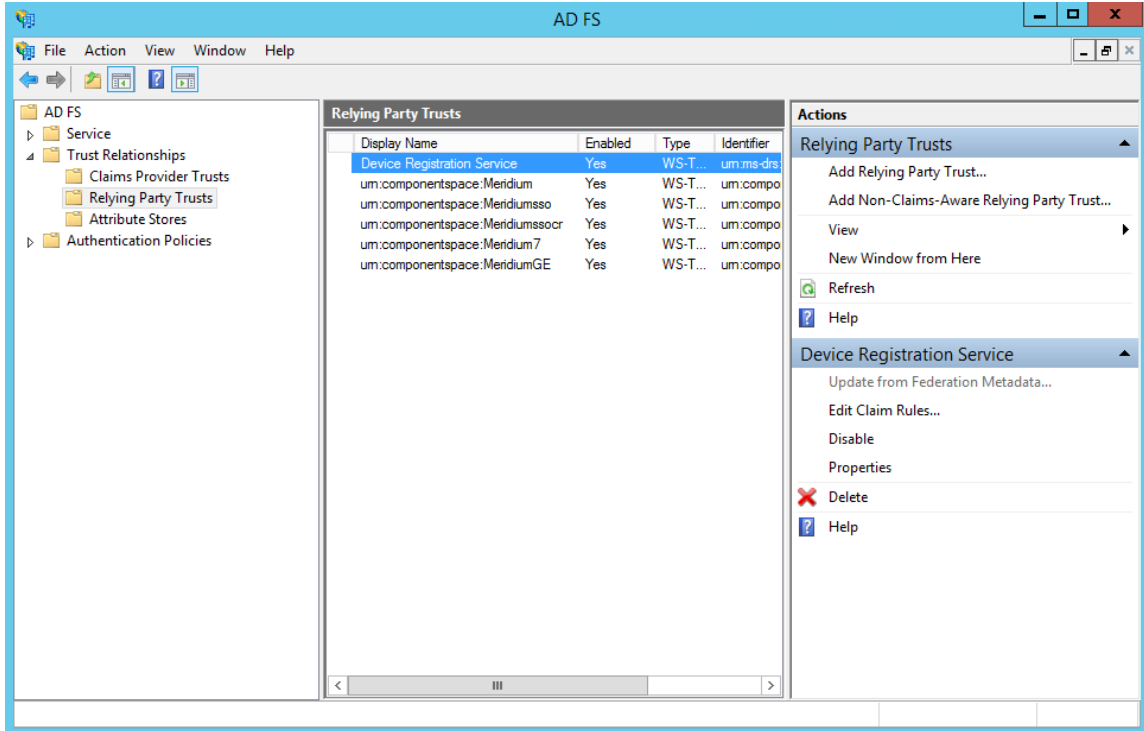
Next Steps

- [Add Claim Rules](#) on page 20

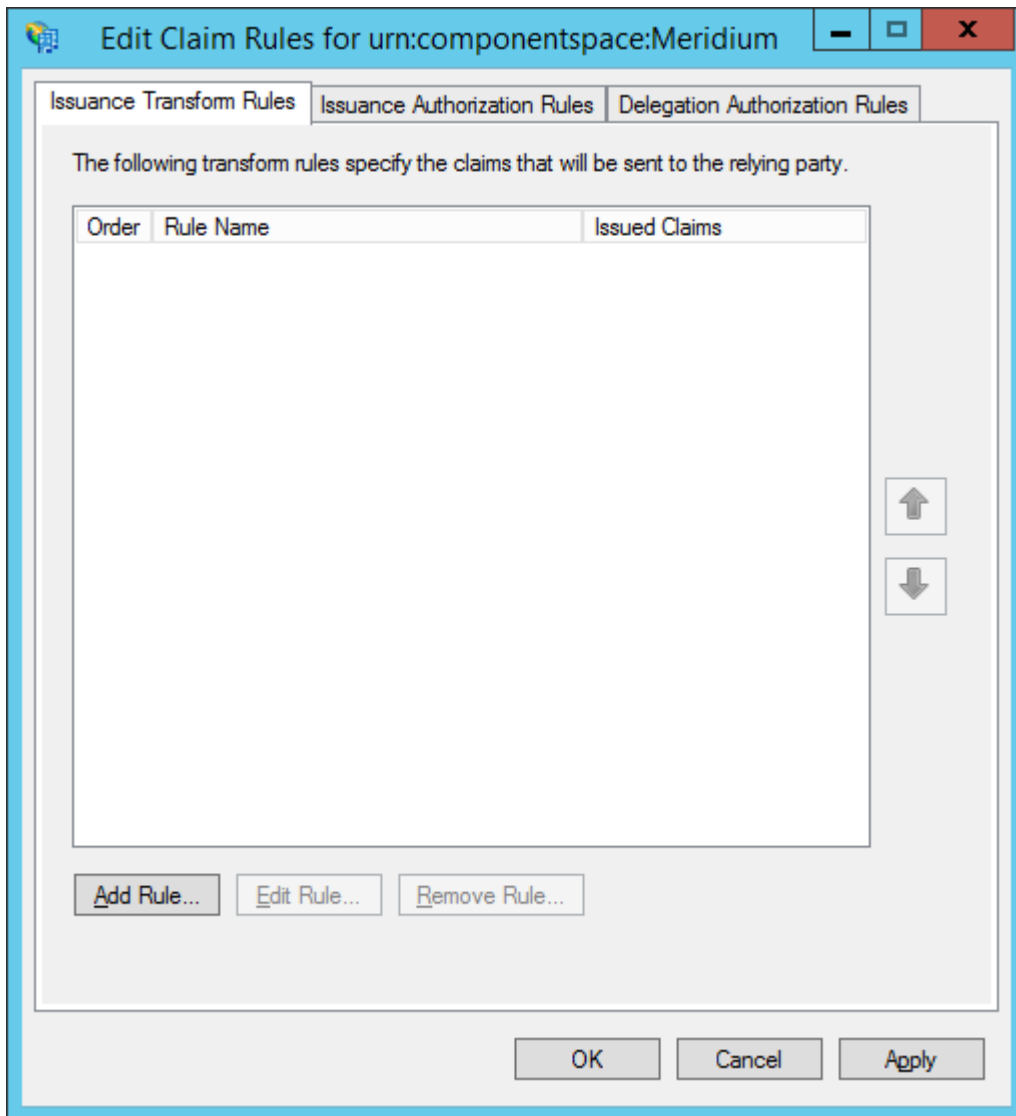
Add Claim Rules

Procedure

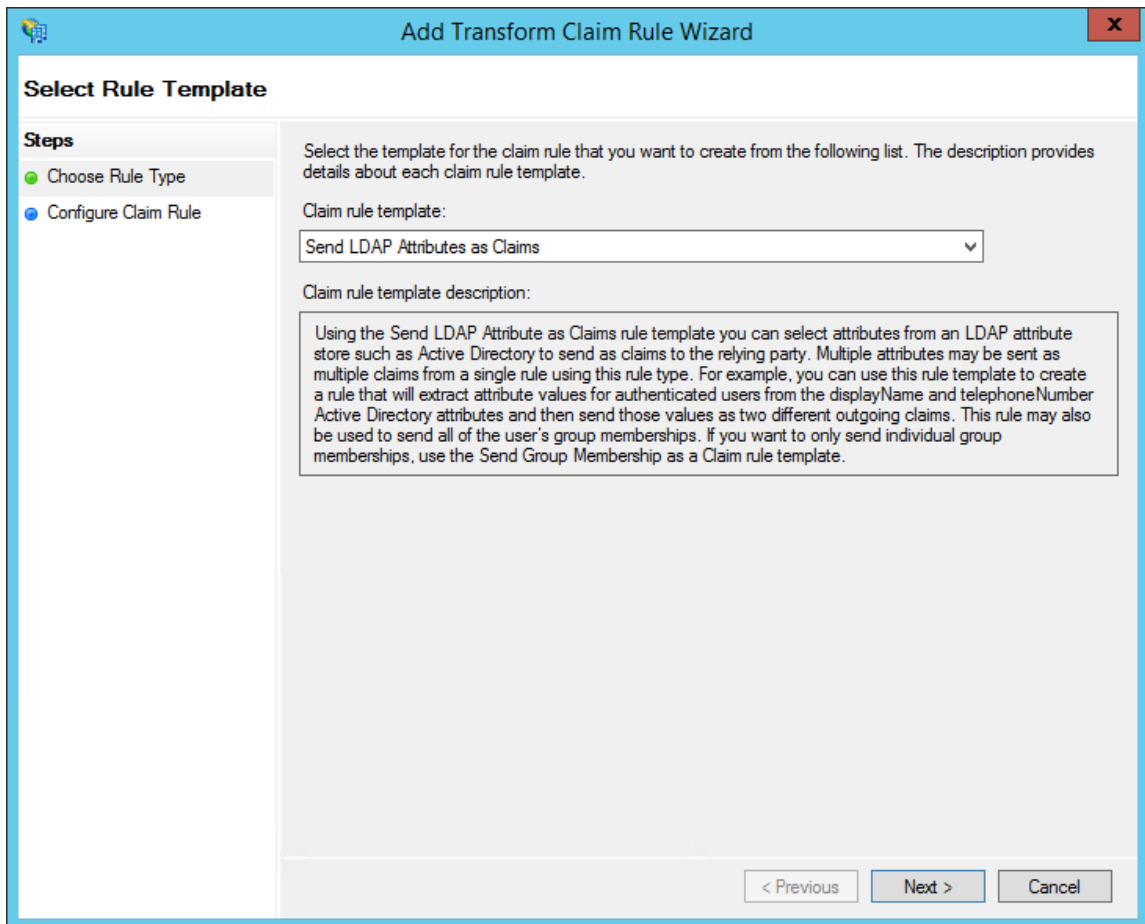
1. In the **AD FS** window, expand the **Trust Relationships** folder, and then select **Relying Party Trusts**. The **Relying Party Trusts** page appears.



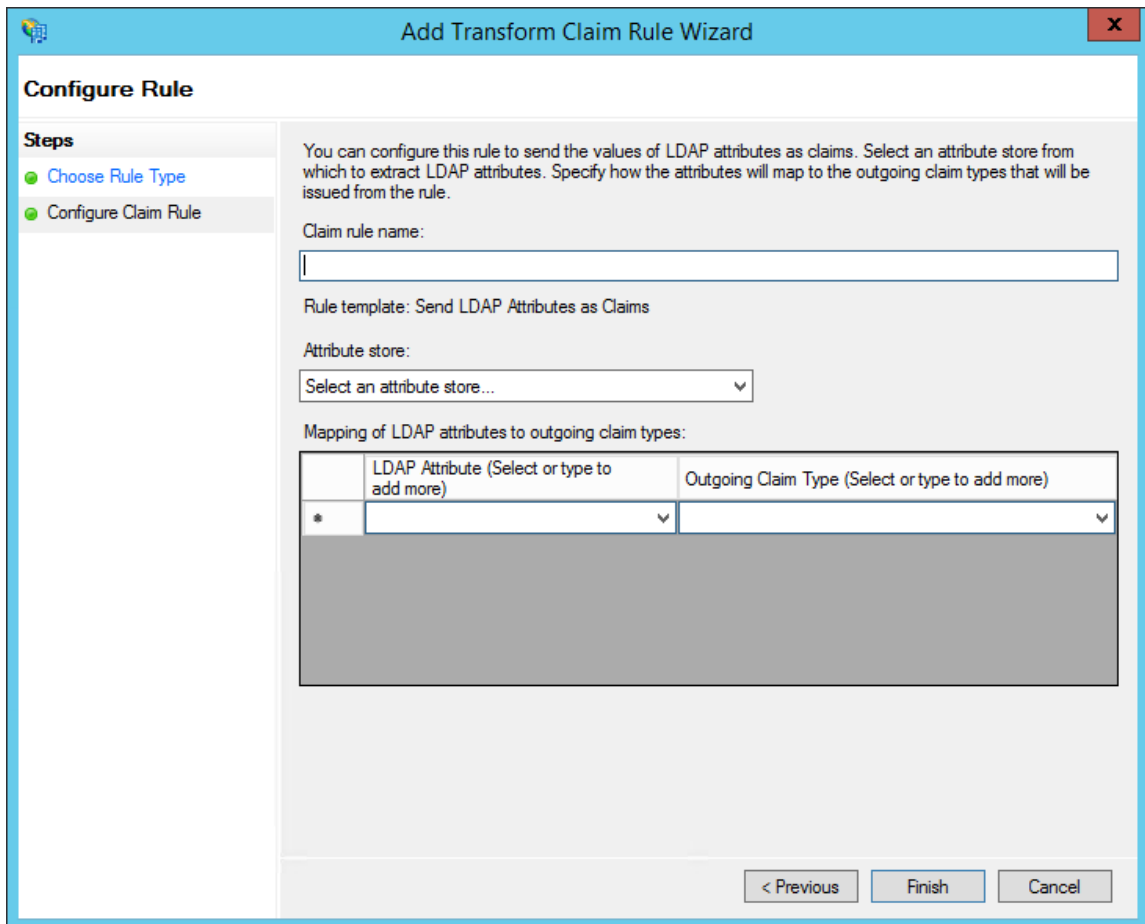
2. Select **urn:componentspace:Meridium**, and then, in the **Actions** section, select **Edit Claim Rules**. The **Edit Claim Rules for urn:componentspace:Meridium** window appears. Select **Issuance Transform Rules** tab.



3. Select **Add Rule**.
The **Add Transform Claim Rule Wizard** window appears.

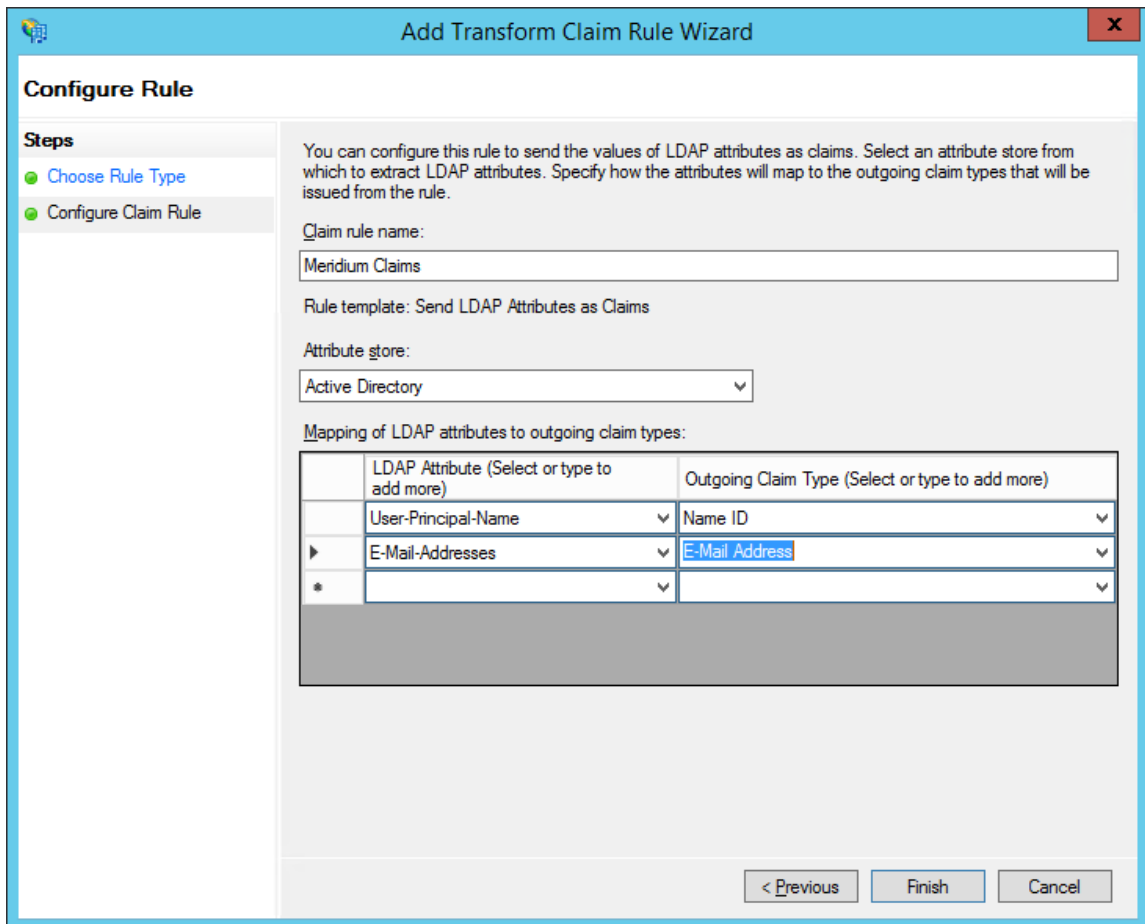


4. In the **Claim rule template** drop-down list box, select **Send LDAP Attributes as Claims**, and then select **Next**.
The **Configure Rule** page appears.

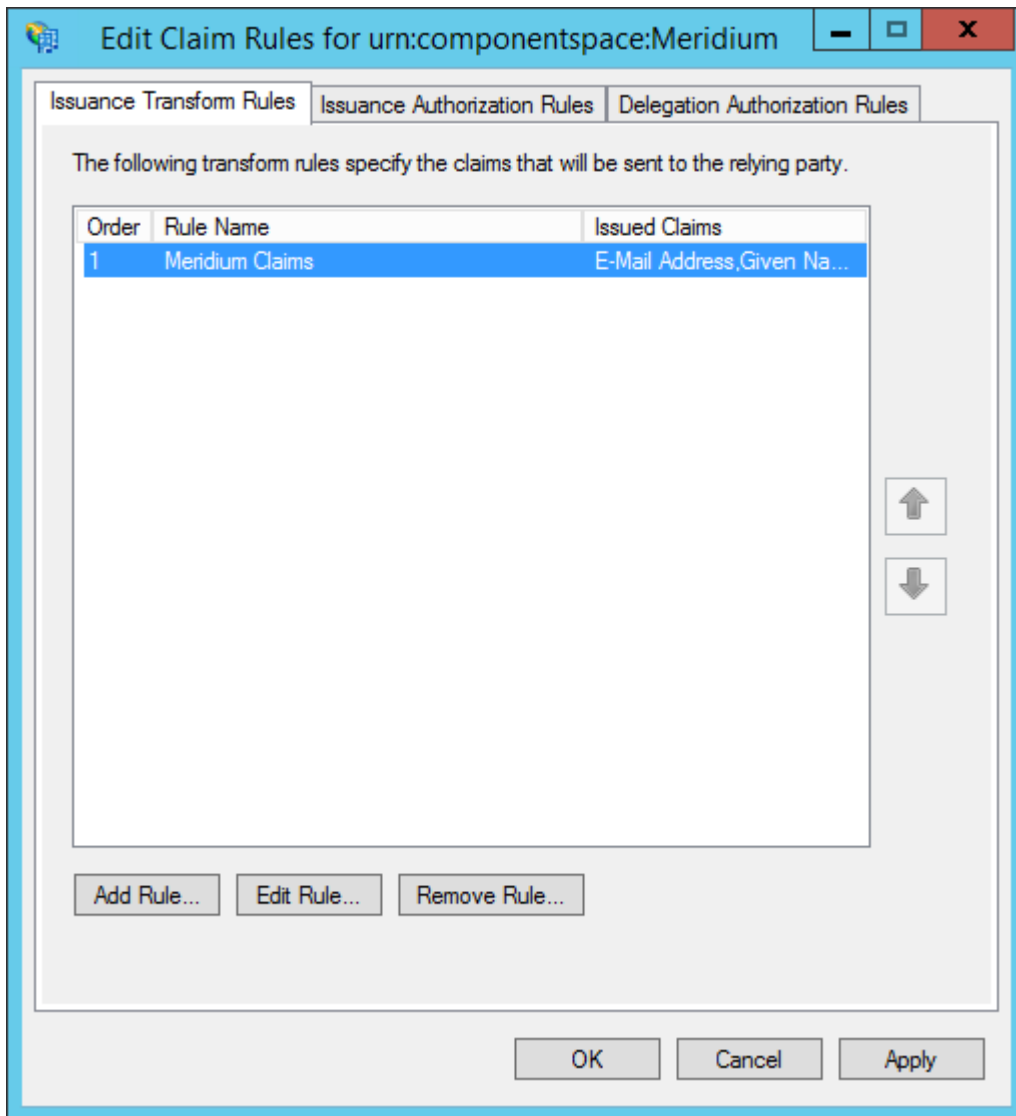


5. In the **Claim rule name** box, enter **Meridium Claims**, and then, in the **Attribute store** drop-down list box, select **Active Directory**.
6. Perform the following steps:
 - In the first drop-down list box in the **LDAP Attribute** column, select **User-Principal-Name**, and then, in the corresponding **Outgoing Claim Type** drop-down list box, select **Name ID**.
 - In the second drop-down list box in the **LDAP Attribute** column, select **E-mail-Addresses**, and then, in the corresponding **Outgoing Claim Type** drop-down list box, select **E-Mail Address**.

The **Configure Rule** page is populated with the selected values.



7. Select **Finish**.
The **Edit Claim Rules for urn:componentSpace:Meridium** window appears.



8. Select **OK**.
The claim rule is added to the **Edit Claim Rules for urn:componentspace:Meridium** window.

Next Steps

- [Add Certificates](#) on page 26

Add Certificates

About This Task

To add certificates, you must perform the following tasks:

Procedure

1. [Install the Service Provider certificate \(sp.pfx\)](#) on page 27
2. [Export the Public Key Certificate](#) on page 31
3. [Copy the Certificate to Active Directory](#) on page 38

4. [Install the Token Signing idp.cer Certificate on the Application Server](#) on page 40

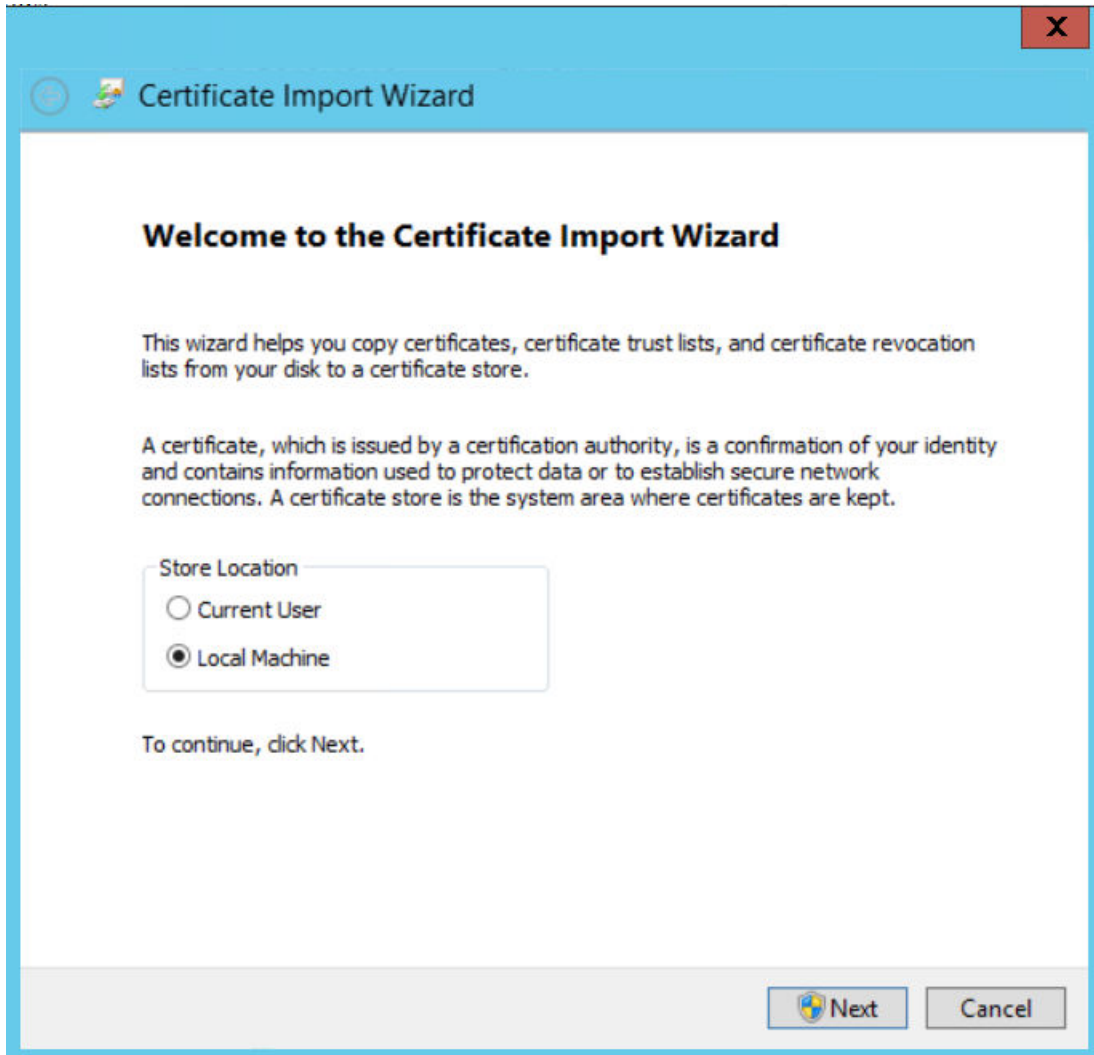
Install the Service Provider certificate (sp.pfx)

Procedure

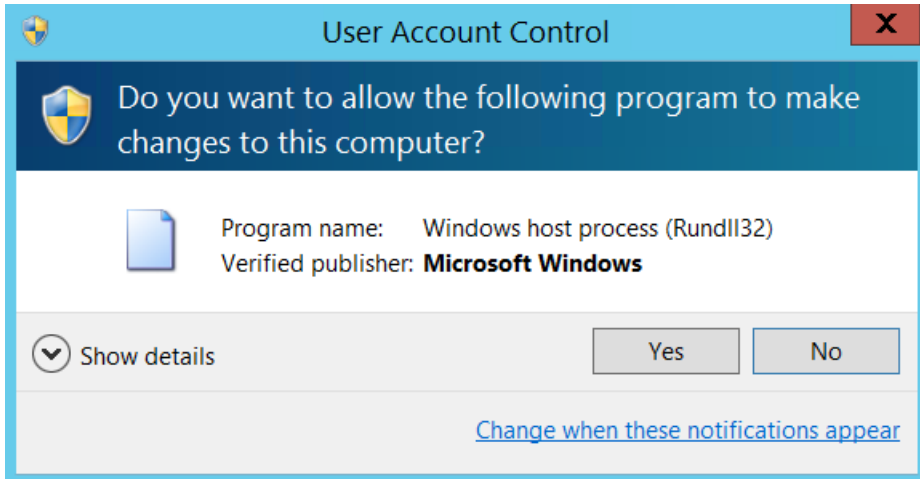
1. Navigate to C:\Program Files\Meridium\ApplicationServer\api, where the service provider certificate file (sp.pfx) is located.

Note: GE Digital provides the service provider certificate file (sp.pfx). pfx is personal information exchange.

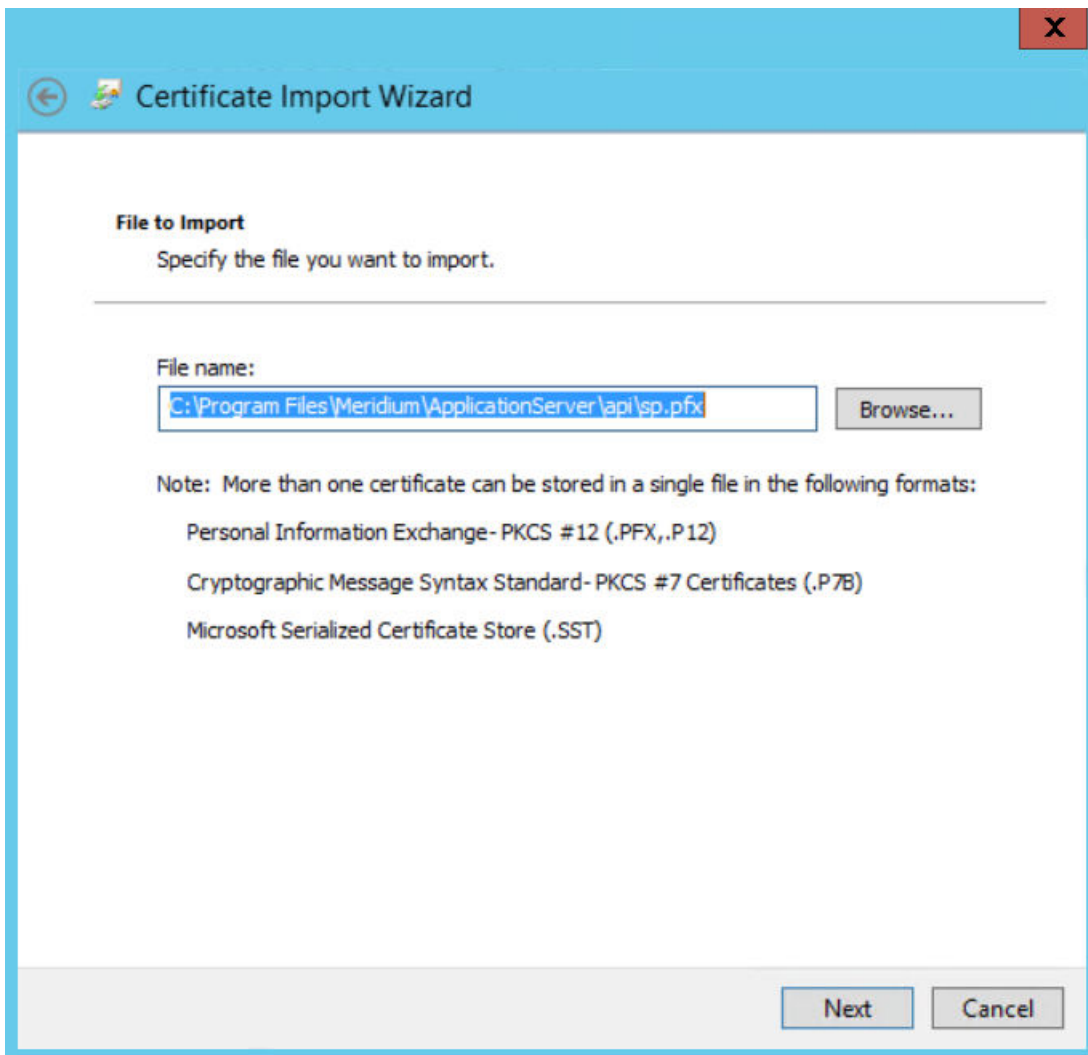
2. Right-click **sp**, and then select **Install PFX**. The **Certificate Import Wizard** appears.



3. Select **Local Machine**, and then select **Next**. The **User Account Control** window appears.




4. Select **Yes**.
The **Certificate Import Wizard** appears, and the **File Name** box displays the file path where the certificate is located.



5. Select **Next**.

✕

←  Certificate Import Wizard

Private key protection
To maintain security, the private key was protected with a password.

Type the password for the private key.

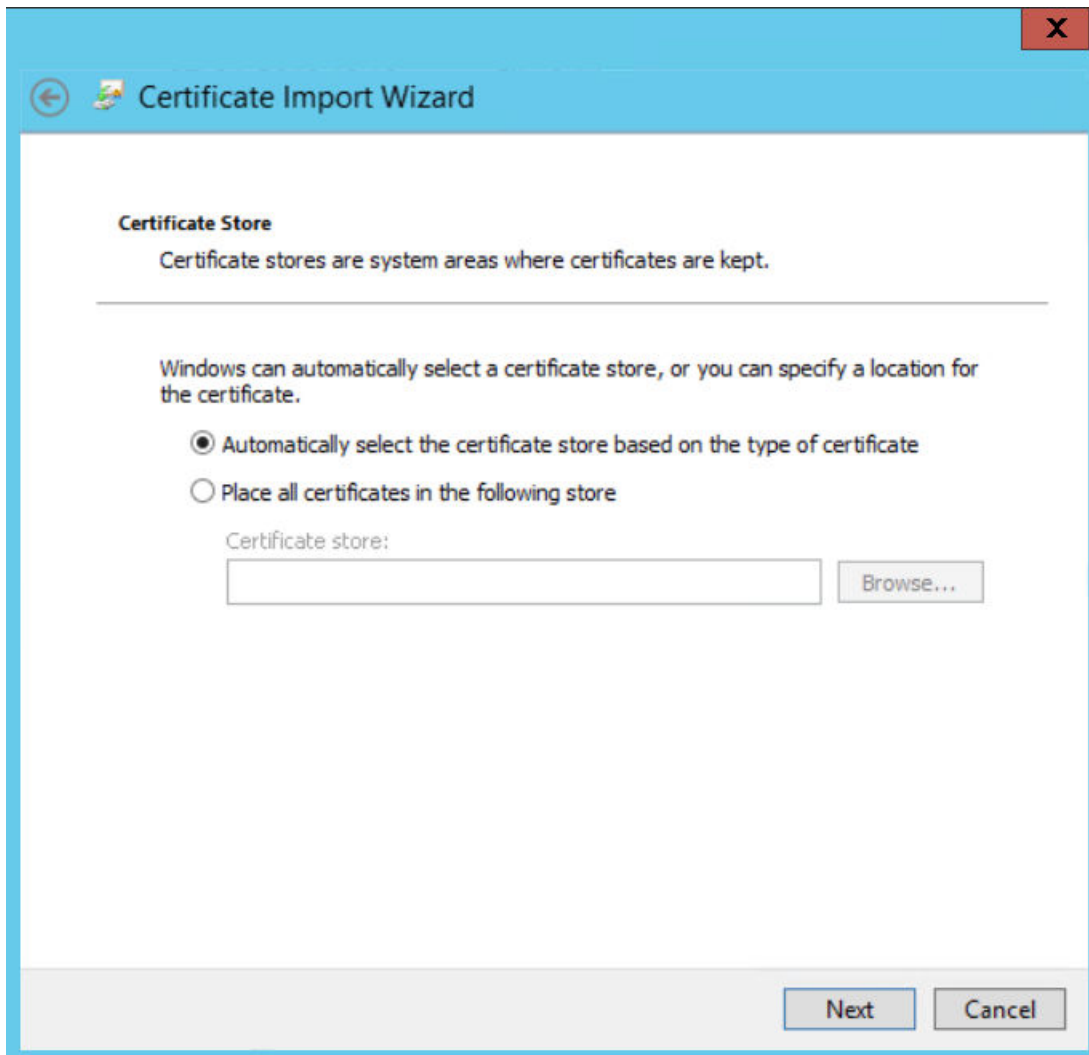
Password:

Display Password

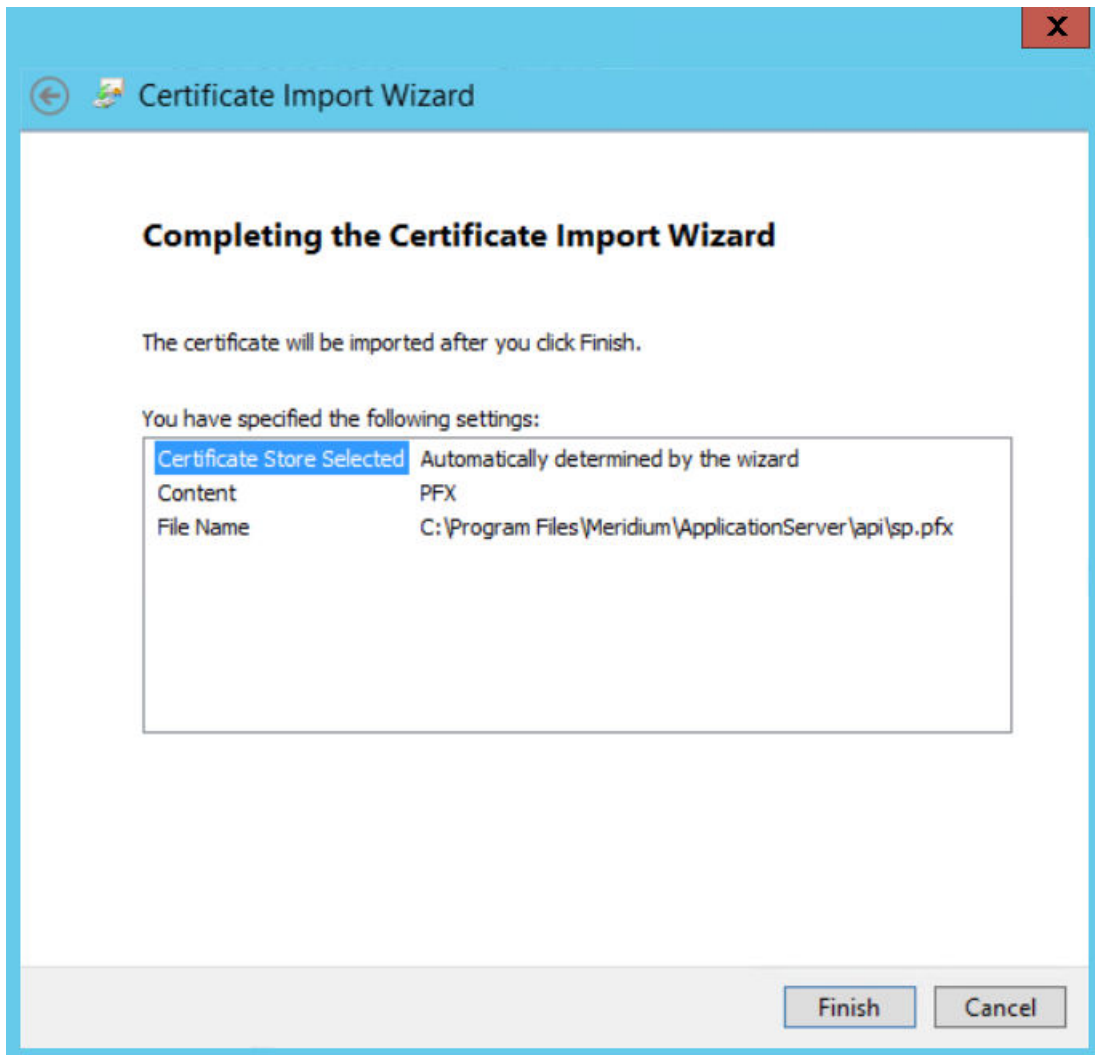
Import options:

- Enable strong private key protection. You will be prompted every time the private key is used by an application if you enable this option.
- Mark this key as exportable. This will allow you to back up or transport your keys at a later time.
- Protect private key using virtualized-based security(Non-exportable)
- Include all extended properties.

6. Enter a password **password**, and then select **Next**.



7. Select **Automatically select the certificate store based on the type of certificate**. The **Completing the Certificate Import Wizard** appears.



8. Select **Finish**.

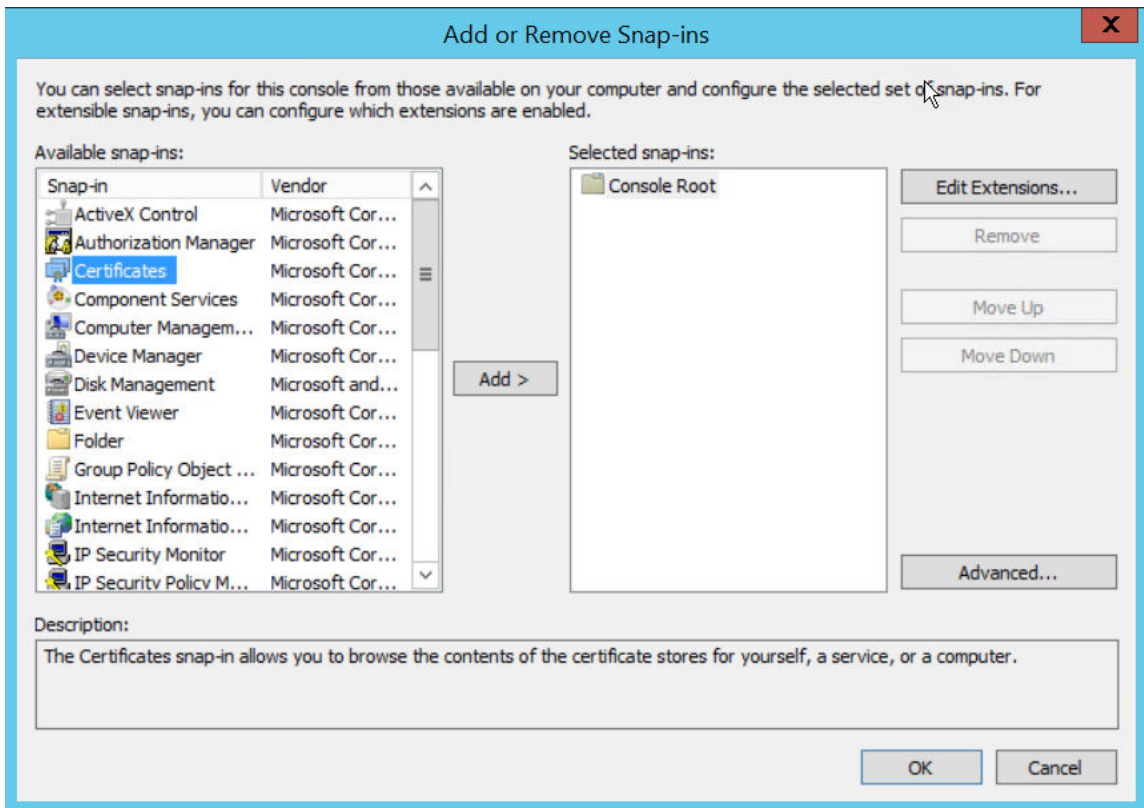
Next Steps

- [Export the Public Key Certificate](#) on page 31

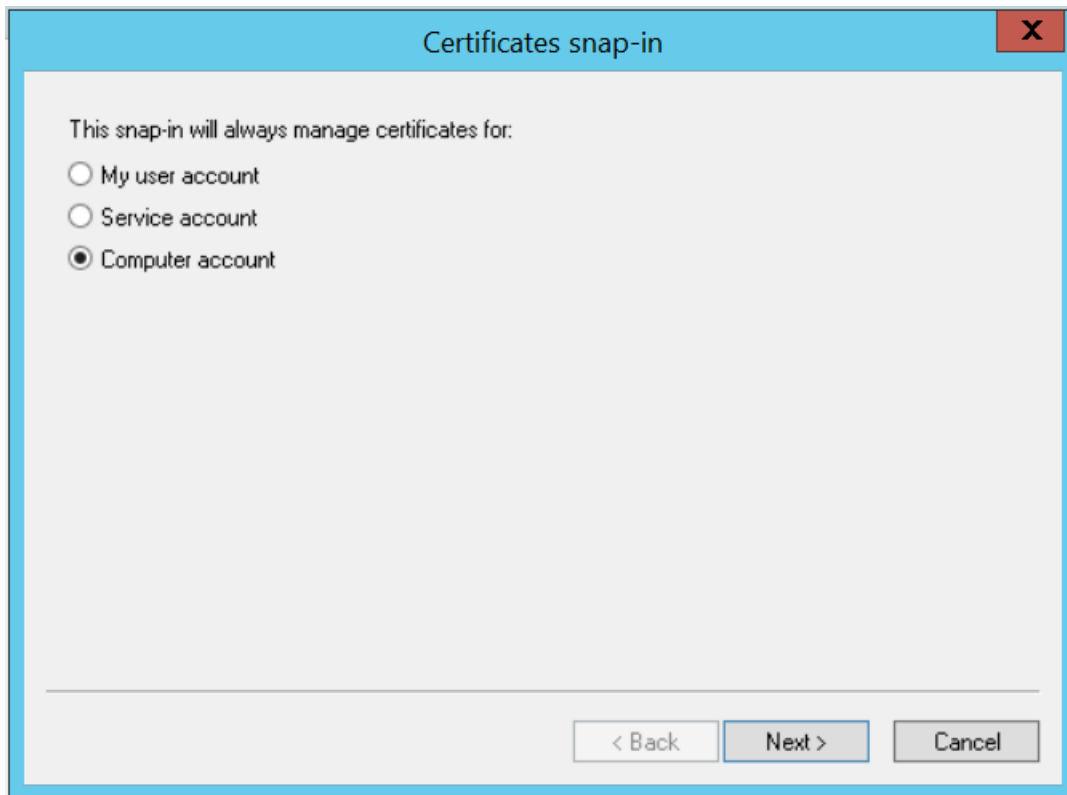
Export the Public Key Certificate

Procedure

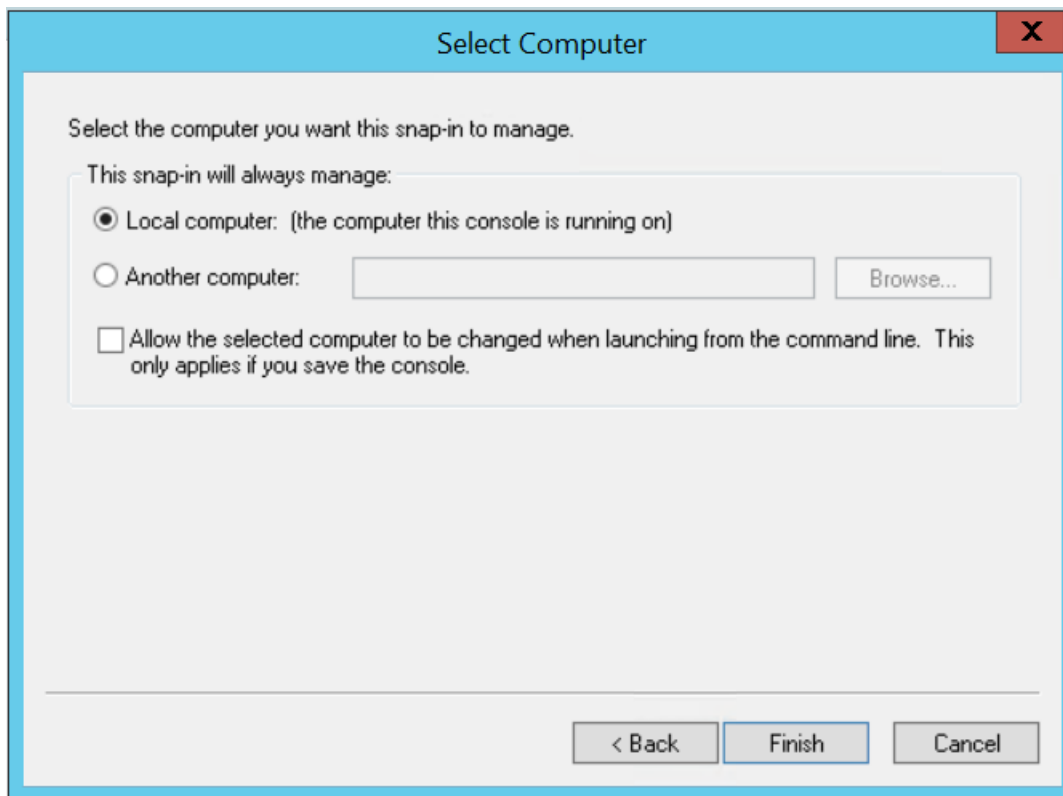
1. Access **Microsoft Management Console**.
2. In the main navigation bar, select **File**, then select **Add/Remove Snap-in**, and then select **Certificates**.
The **Add or Remove Snap-ins** window appears.



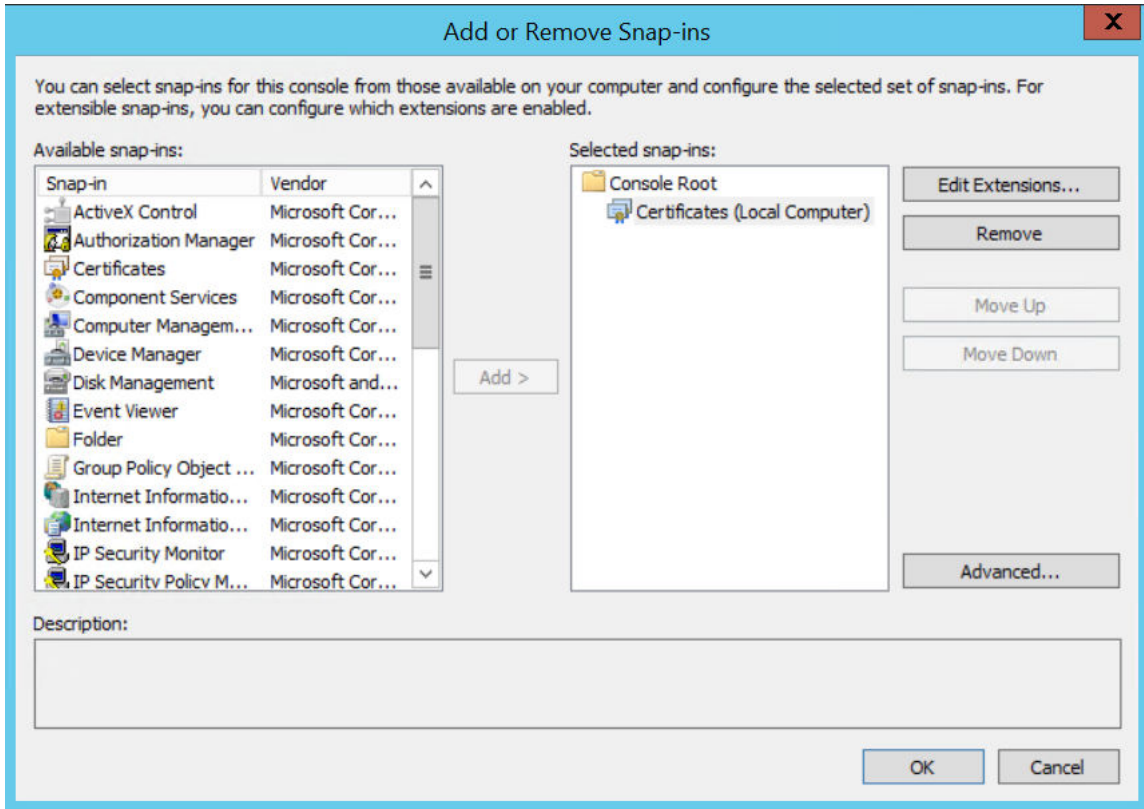
3. Select **Add**.
The **Certificates snap-in** window appears.



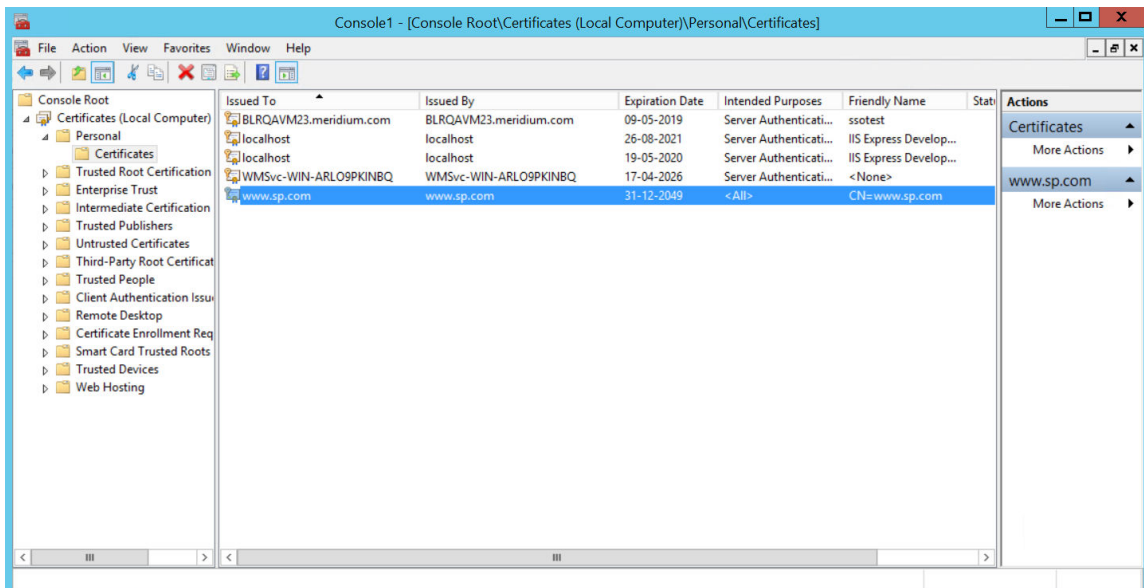
4. Select the **Computer account** option, and then select **Next**. The **Select Computer** window appears.



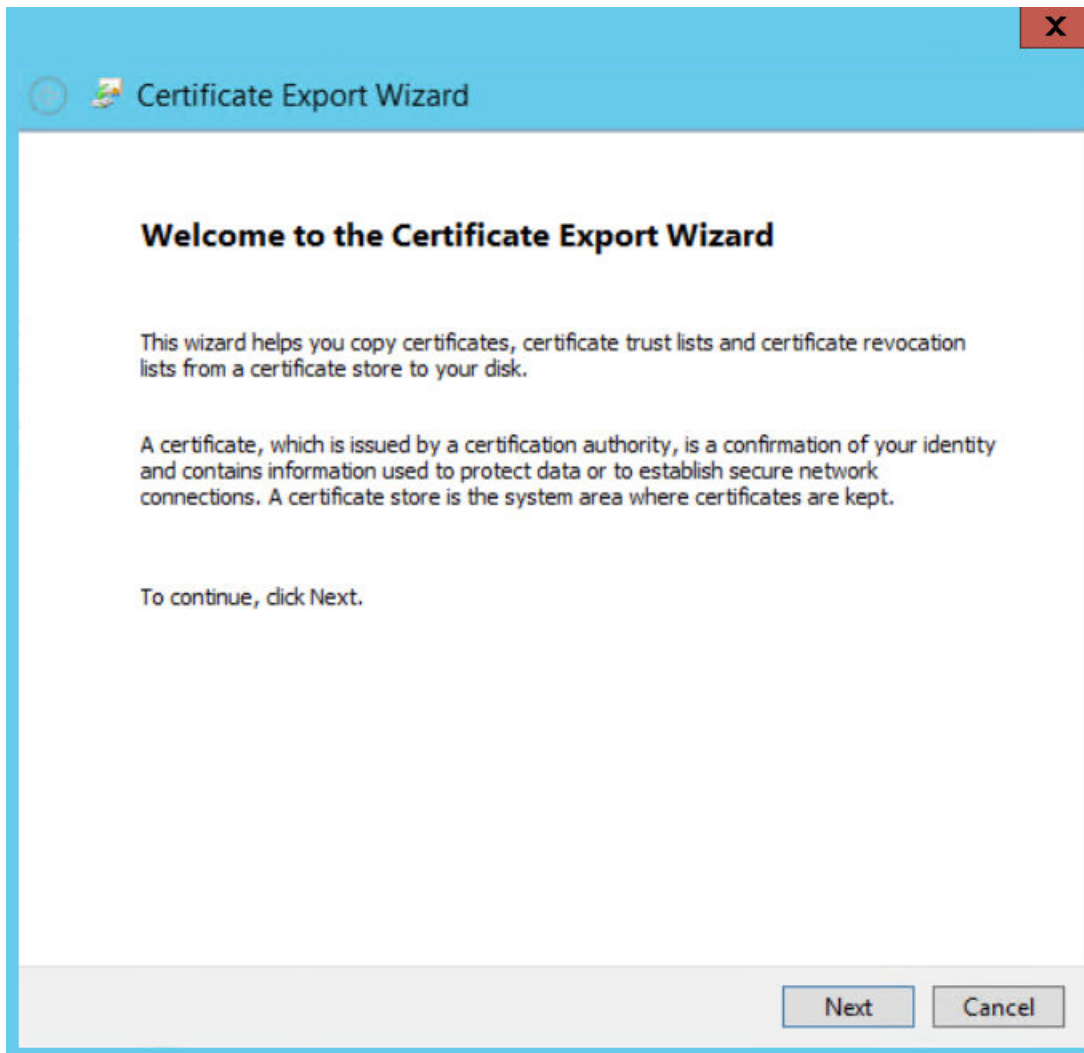
5. Select the **Local computer** option, and then select **Finish**.



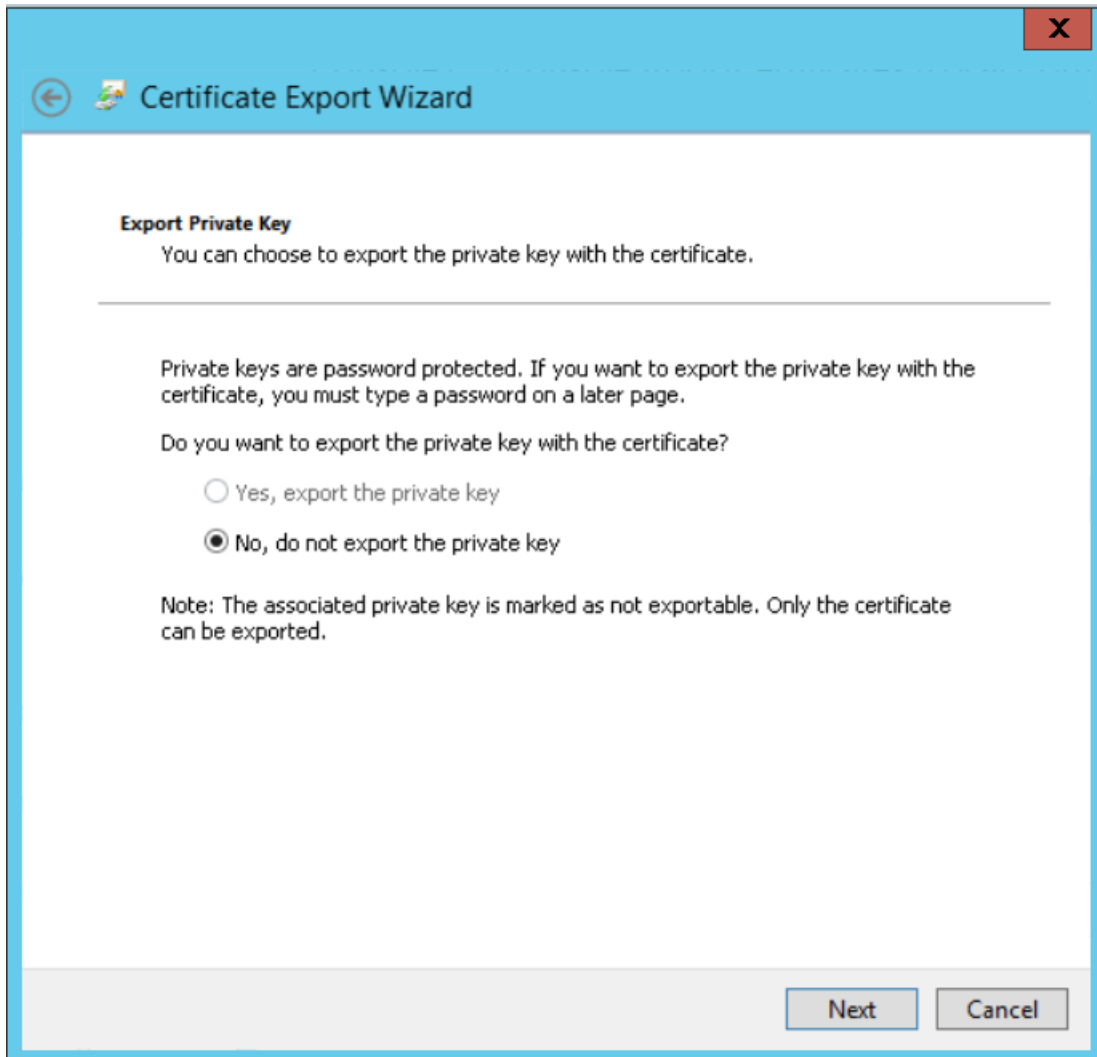
6. In the **Add or Remove Snap-ins** window, select **OK**.
The certificate appears in the **Personal > Certificates** folder of the **Certificates (Local Computer)** folder.
7. Select **Certificates (Local Computer)**, then select **Personal**, and then select **Certificates**.



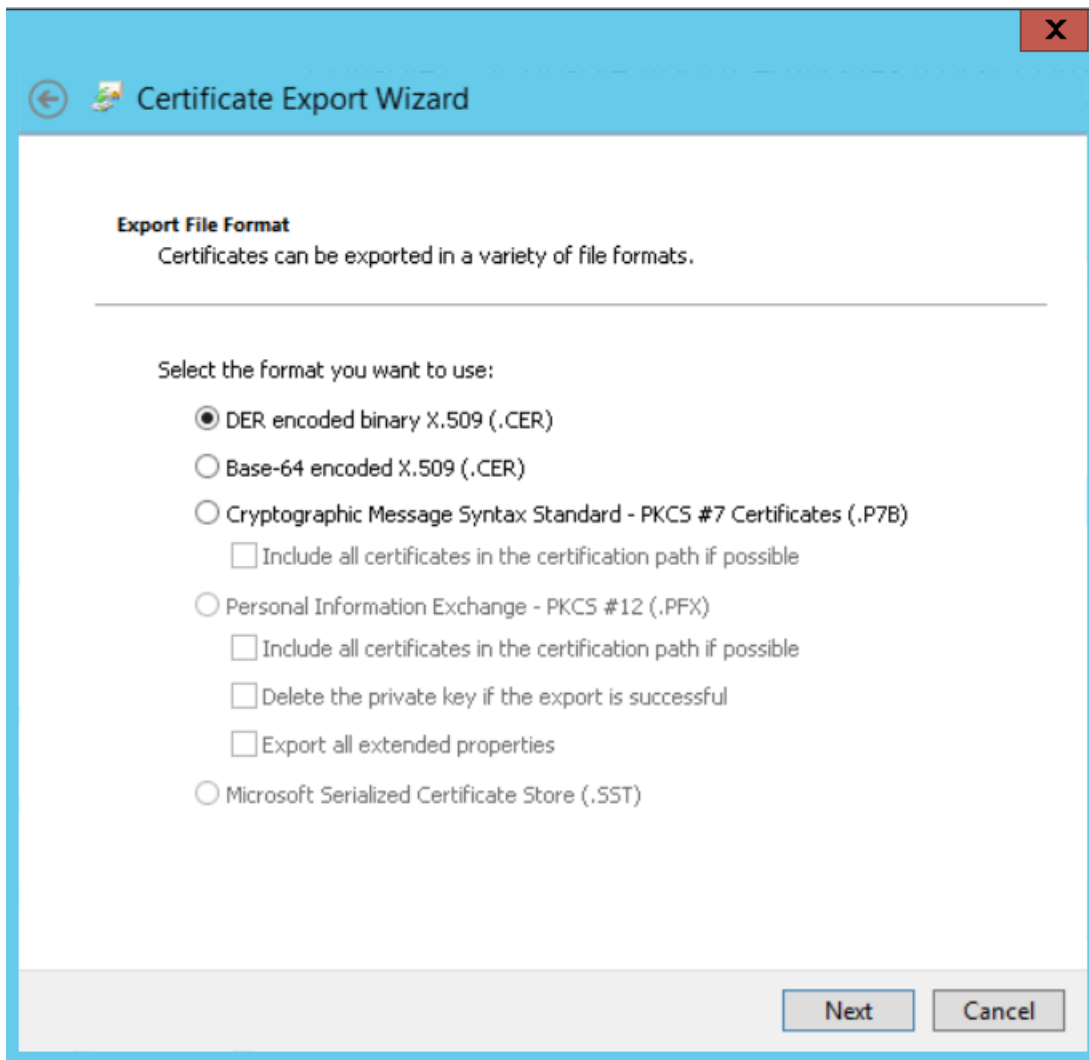
8. Right-click the certificate that you have installed, select **All Tasks**, and then select **Export**.
The **Certificate Export Wizard** appears.



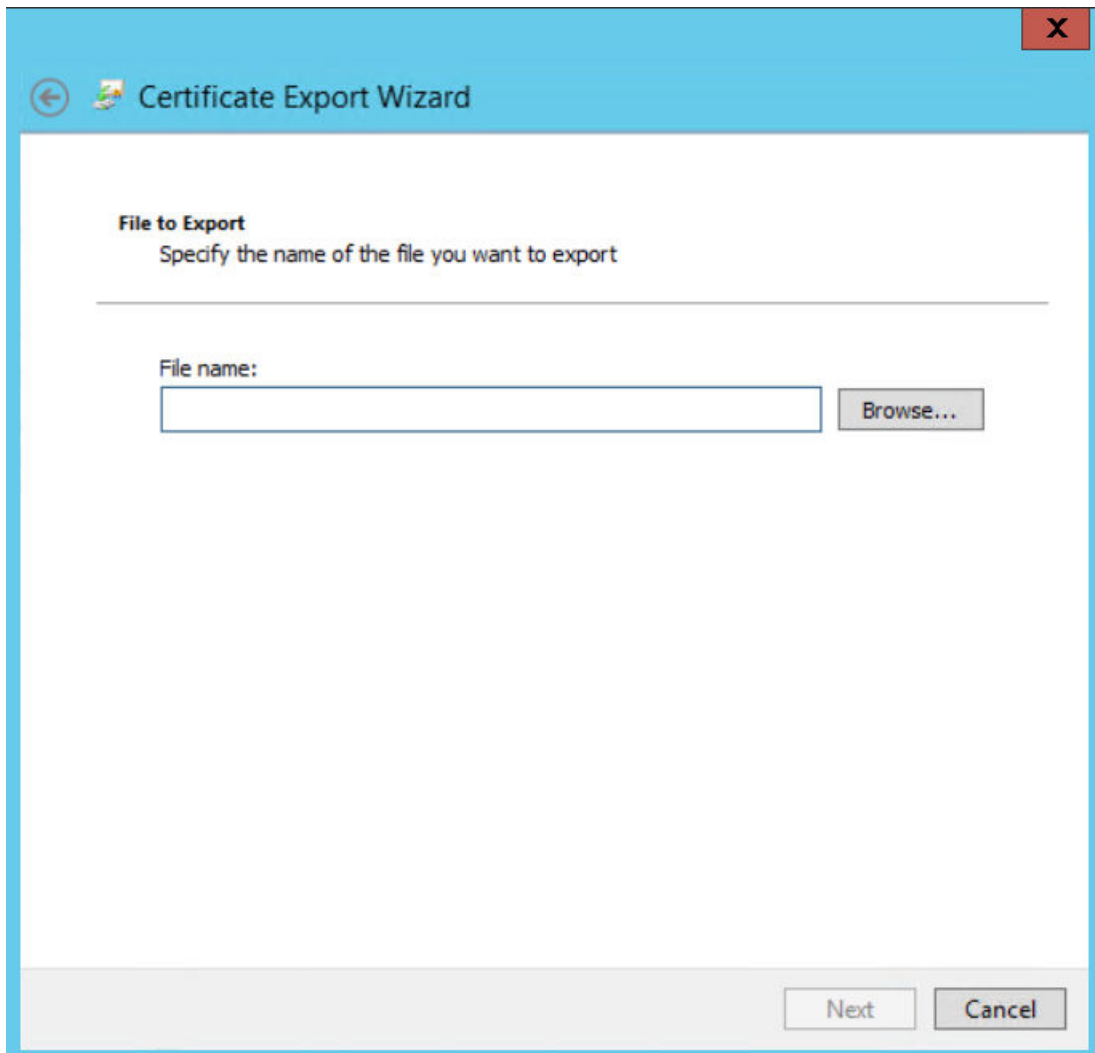
9. Select **Next**.



10. Select the **No, do not export the private key** option, and then select **Next**.



11. Select **DER encoded binary X.509 (.CER)**, and then select **Next**.



12. Select **Browse**, and then navigate to the location to which you want to export the certificate.
13. In the **File name** box, enter the same name that was mentioned while installing the certificate, and then, in the **Save as type** drop-down list box, select **DER Encoded Binary X.509 (.cer)**.
14. Select **Next**, and then select **Finish**.
15. Copy the exported certificate to Active Directory and install it. Please refer to section [Install the Token Signing idp.cer Certificate on the Application Server](#) on page 40, steps 5 - 8 for detailed process of installing the certificate.

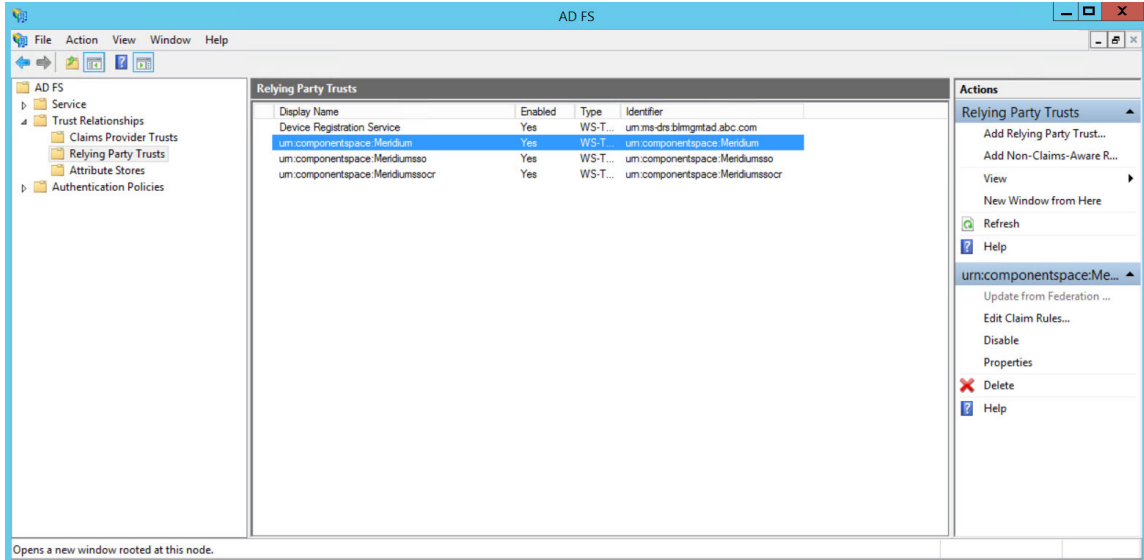
Next Steps

- [Copy the Certificate to Active Directory](#) on page 38

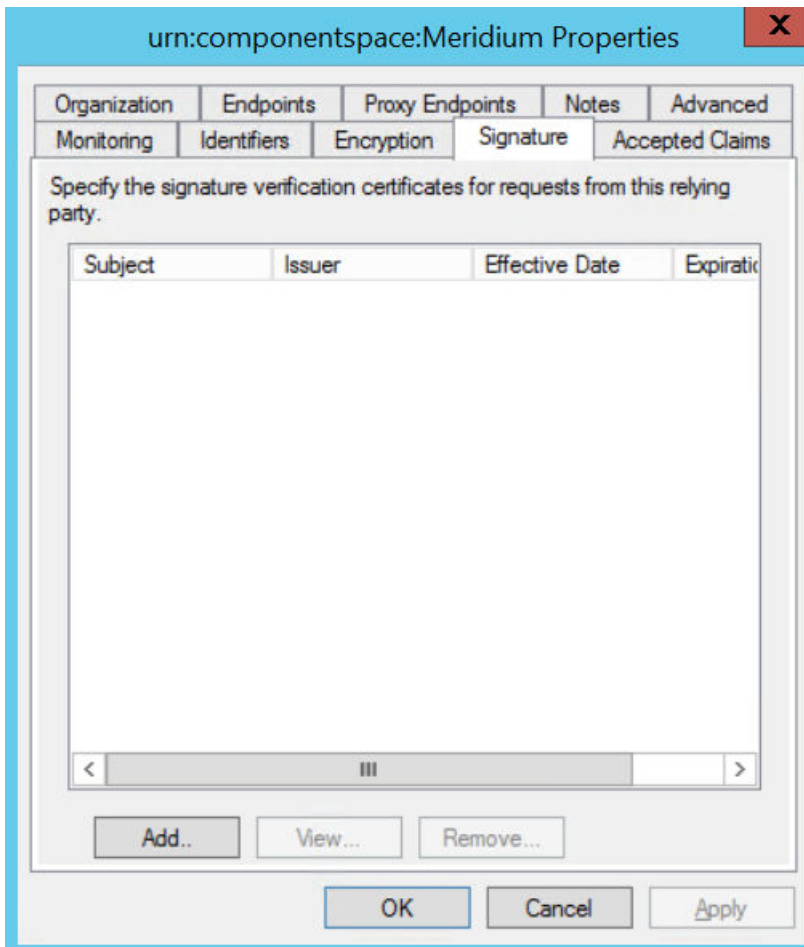
Copy the Certificate to Active Directory

Procedure

1. Access **Control Panel**, then select **System and Security**, and then select **Administrative Tools**.
2. Select **AD FS Management**.
The **AD FS** window appears.

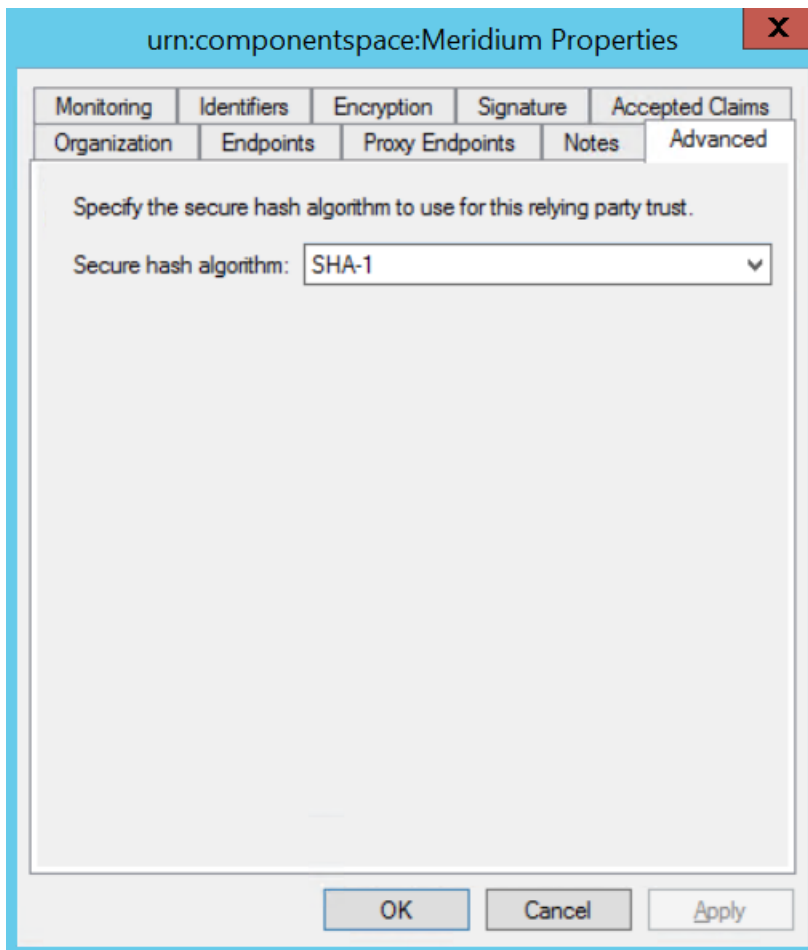


- Expand **Trust Relationships**, and then select **Relying Party Trusts**.
- Select **urn:componentspace:Meridium**, and then, in the **Actions** section, select **Properties**. The **urn:componentspace:Meridium Properties** window appears.



- Select the **Signature** tab, and then select **Add**.
- Navigate to the location in which you have saved the certificate, and then select the file.

7. Select **Yes** to ignore the warning about certificate key length.
8. Select the **Advanced** tab.
9. In the **Secure hash algorithm** drop-down list box, based on the policy of your organization, select **SHA-1** or **SHA-256**.



10. Select **Apply**, and then select **OK**.

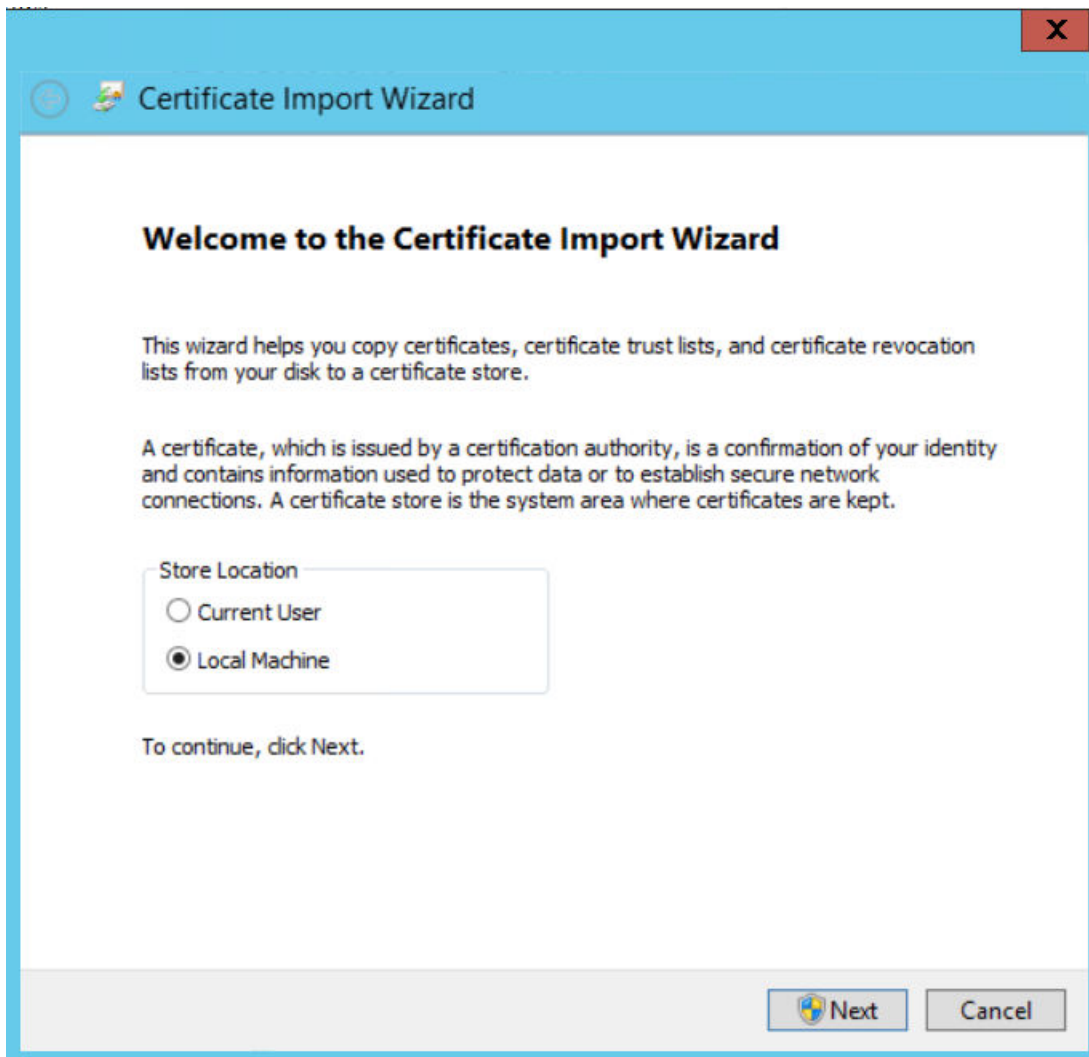
Next Steps

- [Install the Token Signing idp.cer Certificate on the Application Server](#) on page 40

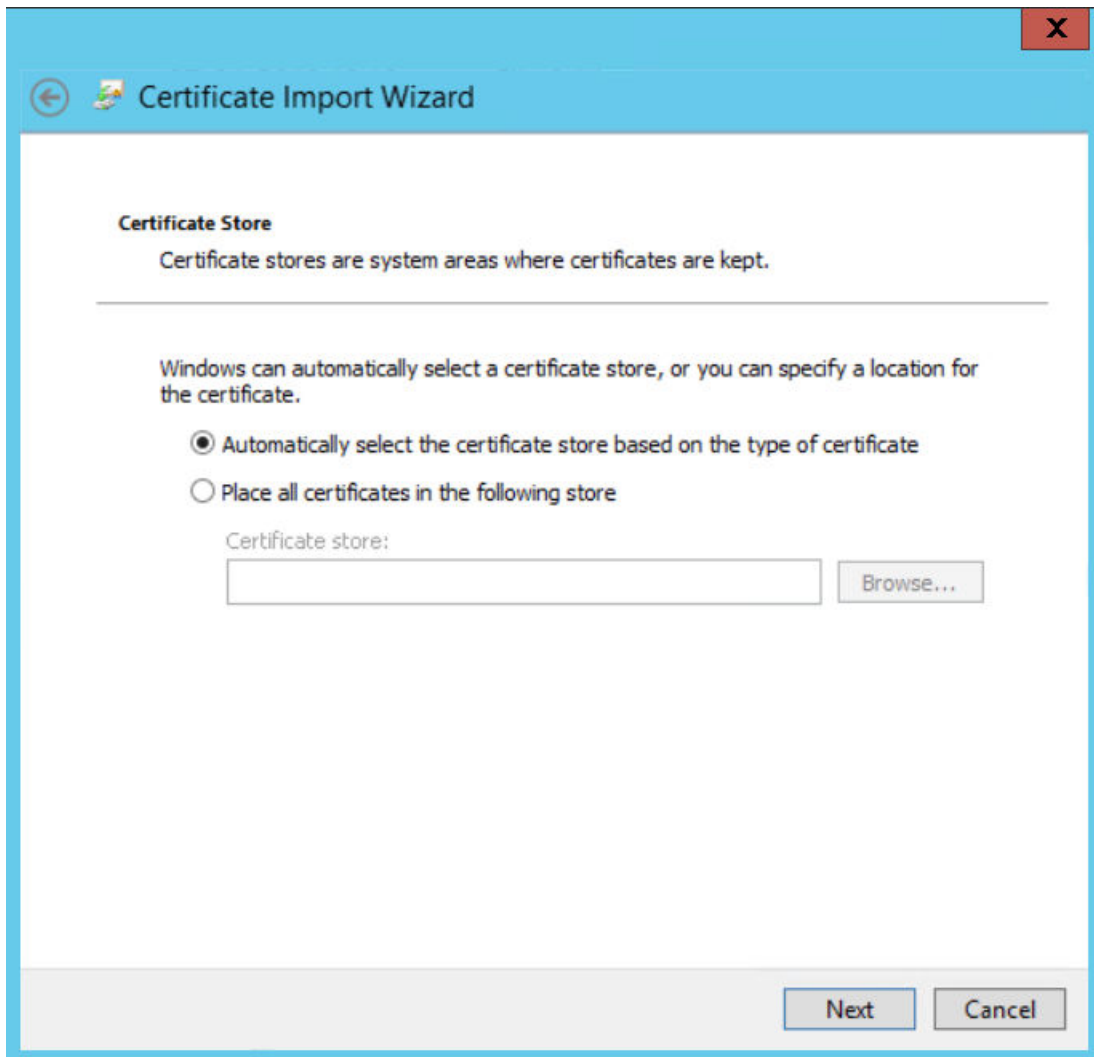
Install the Token Signing idp.cer Certificate on the Application Server

Procedure

1. Access the Active Directory.
2. Export the token signing certificate and save the certificate.
3. Select **Finish**.
4. Copy the certificate to the api folder of the application server.
5. Right-click the file, and then select **Install Certificate**.
The **Certificate Import wizard** appears.



6. Select **Local Machine**, and then select **Next**.



7. Select **Automatically select the certificate store based on the type of certificate**.
8. Select **Next**, and then select **Finish**.

Federation Service Identifier from ADFS

To get Federation Service Identifier from ADFS.

Procedure

1. Open AD FS management console.
2. Select AD FS from left navigation and select 'Edit Federation Service Properties' from Actions pane on the right.
3. On the **Federation Service Properties** dialog window, you can find the Federation Service identifier value.
4. Navigate to C:\Program Files\Meridium\ApplicationServer\api folder and open saml.json file in a text editor. Update the PartnerIdentityProviderConfigurations **Name** value with the Federation Service Identifier.

Next Steps

- [About Enabling GE Digital APM SSO](#) on page 45

Chapter 3

Enable SSO

Topics:

- [About Enabling GE Digital APM SSO](#)
- [About Host Names](#)
- [Enable SSO On Site Authentication Using Active Directory](#)
- [Enable SSO Off-Site Authentication Using GE Digital APM Server Setup](#)

About Enabling GE Digital APM SSO

To enable GE Digital APM SSO, perform one of the following tasks:

- [Enable SSO On Site Authentication Using Active Directory](#) on page 45
- [Enable SSO Off-Site Authentication Using GE Digital APM Server Setup](#) on page 45

About Host Names

Using the Host Names feature, you can:

- [Enable Single Sign-On \(SSO\) off-site authentication](#) and [SSO on-site authentication](#).
- Filter Data Sources to access the related GE Digital APM database.
- Create a unique URL to access GE Digital APM.

When you use a URL to access GE Digital APM, you can access the data sources that are mapped to the host name. For example, if two data sources (data_source1 and data_source2) are associated with a GE Digital APM server, you can create two different URLs (https://data_source1/meridium/index.html and https://data_source2/meridium/index.html) using the host names that are mapped to the data sources. If you log in to GE Digital APM with https://data_source1/meridium/index.html or https://data_source2/meridium/index.html, you can access data_source1 or data_source2, respectively.

In the **Host Names** page, you can add multiple host names. However, only the host name of the URL with which you have logged in to GE Digital APM is listed.

Enable SSO On Site Authentication Using Active Directory

Procedure

1. Run the LDAP Synchronization Process Manually or Schedule a LDAP Synchronization Process .
2. Log out of GE Digital APM.
3. Log in to GE Digital APM with the Windows user name and password.
You are logged in.

Results

- SSO On-Site Authentication is enabled.

Next Steps

- [Configure GE Digital APM Server](#) on page 49

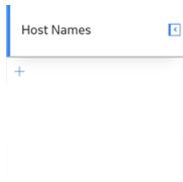
Enable SSO Off-Site Authentication Using GE Digital APM Server Setup


About This Task

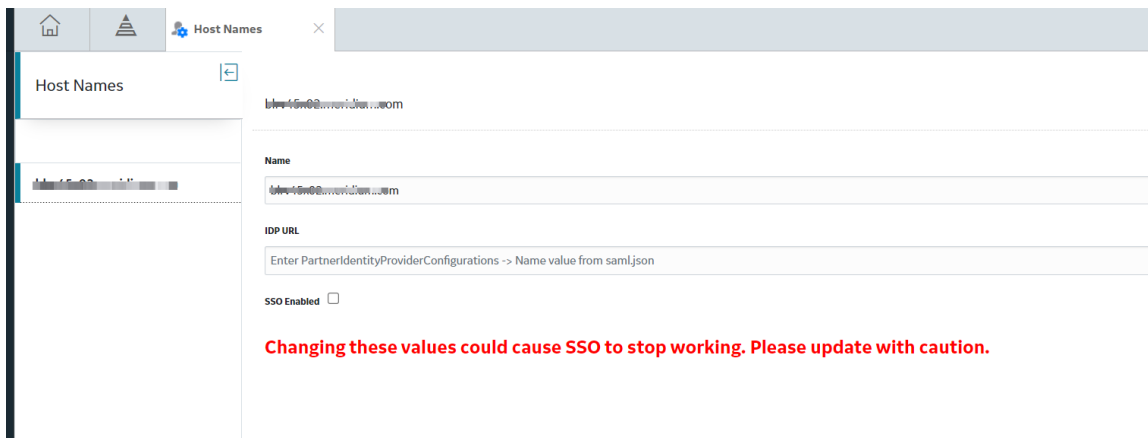
Note: The settings shown below may vary depending on your system.


Procedure

1. In the module navigation menu, select **Admin > Operations Manager > Host Names**.
The **Host Names** page appears.



2. In the left pane, select .
The workspace for a new host name appears, displaying default values.



3. In the **Name** box, replace the default text with the GE Digital APM Server's fully qualified hostname.
Note: This value must match with the server name in the URL used to navigate to APM in the browser. i.e. `https://<Server Name>/Meridium`.
4. In the **IDP URL** box, enter the `PartnerIdentityProviderConfigurations` **Name** value that was configured on the `C:\Program Files\Meridium\ApplicationServer\api\saml.json` file.
5. Select the **SSO Enabled** check box.
6. Select .
The host name is saved.
7. Log out of GE Digital APM.
8. On the GE Digital APM Server, in the GE Digital APM program files, navigate to the folder `.\ApplicationServer\api`.

Note:

- If you installed the software in the default location, the folder location will be `C:\Program Files\Meridium\ApplicationServer\api`.
 - The settings in `saml.json` must be configured to match the environment to which you are connecting. For example, the URL listed in `SingleSignOnServiceUrl` should point to the URL where you want to authorize the users.
9. Modify the assertion and response signing settings to match the signing settings that are specified on the IDP, and then save and close the file.
 10. Reset IIS.
IIS is reset.
 11. Access GE Digital APM via a web browser.
The user is logged in, and SSO off-site authentication is enabled.

Next Steps

- [Configure GE Digital APM Server](#) on page 49

Chapter 4

Configure GE Digital APM Server

Topics:

- [Configure GE Digital APM Server](#)

Configure GE Digital APM Server

Before You Begin

- Ensure that the GE Digital APM Server is installed and the server is configured to use SSL.
- Ensure that you can access the GE Digital APM application in a web browser using HTTPS protocol.
- Ensure that the GE Digital data source is configured and you can log in with administrative privileges.

Procedure

1. Using a web browser, log in to GE Digital APM as an Administrator.
2. In the module navigation menu, select **Admin**, then select **Operations Manager**, and then select **Data Sources**.
The **Data Sources** page appears.

V4030100_BASE_QA_LAST

Data Source ID	Database Server
V4030100_BASE_QA_LAST	BLRDEVDB01/SQL2012
Data Source Description	Database Name
V4030100_BASE_QA_LAST	V4030100_BASE_QA_LAST
Data Source Host	Database Alias
*	
Database Type	Oracle Host
SQL Server	
Database User Name	Oracle Port
V4030100_BASE_QA_LAST	
Password	Oracle Service
.....	

Preload Cache
 Datasource Offline

3. In the **Data Source Host** box, enter the name of the GE Digital APM server, and then select **Save**.
4. Enable LDAP Integration, configure Domain Record, and then schedule and run LDAP synchronization.

Note: For more information on how to enable LDAP Integration, configure a Domain Record, and schedule LDAP synchronization, refer to the Lightweight Directory Access Protocol documentation.

The users from Active Directory are now imported to GE Digital APM and are assigned the appropriate Security Roles and Groups.

5. Stop IIS, the Redis service, and all Meridium Windows services.
6. Navigate to `C:\Program Files\Meridium\ApplicationServer\api`
7. Using a json or text editor, access the file `saml.json`.
8. Add a new configuration to `<PartnerIdentityProviderConfigurations>` json array or update the existing configuration by setting the following attributes:
 - Name: As described in sections [Configure Azure Active Directory as the Identity Provider \(IDP\)](#) on page 4 and [About Configuring Identity Provider \(IDP\) on Active Directory](#) on page 9.
 - WantSAMLResponseSigned: false
 - WantAssertionSigned: true
 - WantAssertionEncrypted: false
 - UseEmbeddedCertificate: false

- SingleSignOnServiceUrl: In the case of ADFS, it is of the form: {https version of Federation Service identifier} + "/adfs/ls". For example, <https://myadfsserver/adfs/ls>. This information must be obtained from the ADFS team. In the case of Azure AD, please refer to section [Configure Azure Active Directory as the Identity Provider \(IDP\)](#) on page 4.

Note:

For SHA-256, you must add the following two attributes to the `saml.json` file:

- "DigestAlgorithm": "http://www.w3.org/2001/04/xmlenc#sha256"
- "SignatureAlgorithm": "http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"

The following example shows the configured `saml.json` file:

```
{
  "SAML": {
    "$schema": "https://www.componentSpace.com/schemas/saml-
config-schema-v1.0.json",
    "Configurations": [
      {
        "LocalServiceProviderConfiguration": {
          "Name": "urn:componentSpace:Meridium",
          "AssertionConsumerServiceUrl": "~/core/security/
ssologinauth",
          "LocalCertificates": [
            {
              "FileName": "sp.pfx",
              "Password": "password"
            }
          ]
        },
        "PartnerIdentityProviderConfigurations": [
          {
            "Name": "http://fs.xyz.com/adfs/services/
trust",
            "Description": "ADFS",
            "SignAuthnRequest": true,
            "WantSamlResponseSigned": false,
            "UseEmbeddedCertificate": true,
            "WantAssertionEncrypted": false,
            "WantAssertionSigned": true,
            "SingleSignOnServiceUrl": "https://
fs.xyz.com/adfs/ls/idpinitiatedsignon.aspx",
            "PartnerCertificates": [
              {
                "FileName": "idp.cer"
              }
            ]
          }
        ]
      }
    ]
  }
}
```

9. Save and close the file `saml.json`.
10. Start IIS, the Redis service, and all Meridium Windows Services.

Chapter 5

Troubleshooting

Topics:

- [Troubleshooting Scenarios](#)
- [Frequently Asked Questions](#)

Troubleshooting Scenarios

Troubleshooting Scenarios

The following topics can help you troubleshoot issues that you may have with the SSO module:

- [Enable ComponentSpace SAML trace](#) on page 52

Enable ComponentSpace SAML trace

Description

Enable ComponentSpace SAML trace for troubleshooting SSO issues

Cause

None

Solution

Perform the following steps:

1. Navigate to C:\Program Files\Meridium\ApplicationServer\api
2. Access Nlog.config
3. In the <Targets> section, add the following line of code: `<target xsi:type="File" name="spFile" fileName="c:\ProgramData\Meridium\Logs\sp.log" layout="{liteLayout}" />`
4. In the <Rules> section, add the following line of code: `<logger name="ComponentSpace.*" minlevel="Debug" writeTo="spFile" />`

As shown below:


```

1 <?xml version="1.0" encoding="utf-8" ?>
2 <nlog xmlns="http://www.nlog-project.org/schemas/NLog."
3     xmlns:xsi="http://www.w3.org/2001/XMLSchema-inst
4     autoReload="true"
5     internalLogLevel="Warn"
6     internalLogFile="internal-nlog.txt">
7
8 <!-- import extensions and liteLayout -->
9 <include file="nlog.Shared.config" />
10
11 <!-- the targets to write to -->
12 <targets>
13     <!-- write logs to file -->
14     <target xsi:type="File" name="allfile" fileName="c
15     <target name="scheduler" type="File" fileName="c:\
16     <target xsi:type="File" name="mechanicalIntegrity"
17     />
18     <target xsi:type="File" name="dlFramework" fileName
19     <!-- write to the void aka just remove -->
20     <target xsi:type="Null" name="blackhole" />
21     <target xsi:type="File" name="spFile" fileName="c:
22 </targets>
23
24 <!-- rules to map from logger name to target -->
25 <rules>
26     <!--Skip Microsoft logs and so log only own logs-->
27     <logger name="Microsoft.*" minlevel="Trace" writeTo="
28     <!--Skip Quartz logs till Info and so log only own
29     <logger name="Quartz.*" minlevel="Info" maxlevel="
30     <logger name="Meridium.Core.Scheduling.*" minlevel
31     <logger name="Meridium.MechanicalIntegrity.*" minl
32     <logger name="Meridium.Api.Connect.*" minlevel="In
33     <logger name="ComponentSpace.*" minlevel="Debug" w
34     <logger name="*" minlevel="Info" writeTo="allfile"
35 </rules>
36 </nlog>

```

The ComponentSpace SAML trace is enabled.

IIS reset and Redis restart are not required after this change. You must refresh the browser and complete the SSO workflow. This will create a file, `sp.log` in the `C:\ProgramData\Meridium\Logs` folder and write the SAML trace to it.

Note: It is recommended to disable the SAML trace after the troubleshooting is complete as it may impact performance of the production system.

Frequently Asked Questions

FAQs for SSO

Is Azure AD supported as an Identity Provider in GE Digital APM?

Yes, Azure AD for SAML SSO can be configured in GE Digital APM. For more information, refer to [Configure Azure Active Directory as the Identity Provider \(IDP\)](#) on page 4.

How to enable ComponentSpace SAML trace?

You can enable ComponentSpace SAML trace to generate logs for troubleshooting. For more information, refer to [Enable ComponentSpace SAML trace](#) on page 52.