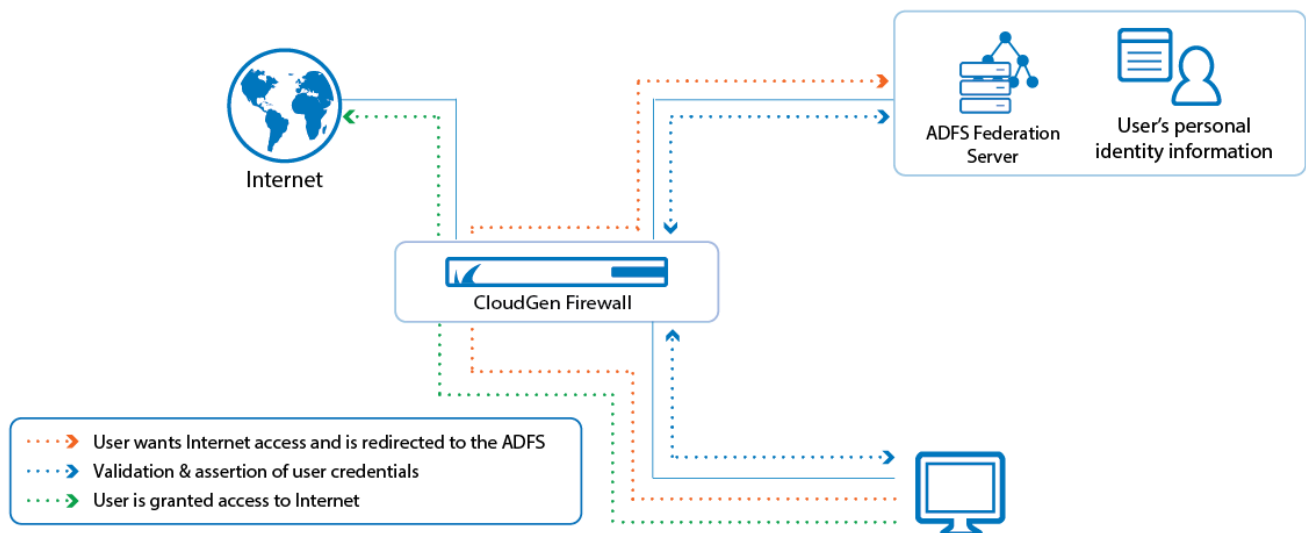


## How to Configure AD FS Authentication

<https://campus.barracuda.com/doc/79464176/>

The Active Directory Federation Service (AD FS) is a service provided by Microsoft that enables users to authenticate across multiple organizations. The credentials are not forwarded to the service provider. Rather, when users contact a service provider, they are forwarded to the AD FS that will provide a token. This token will then be used to verify with the identity provider that the user authenticated successfully. Using the token ensures that the service provider never has access to the actual user credentials. AD FS uses the Security Assertion Markup Language (SAML) for exchanging authentication and authorization information. AD FS is currently provided for HTTPs only.



AD FS enables transparent single sign-on (i.e., sign in to applications if the user is already signed in on the firewall, and vice versa). This requires a firewall rule to forward the traffic to fwauthd. AD FS authentication supports both offline authentication and inline authentication.

### Step 1. Enable AD FS Authentication on the Firewall

If you are making changes to this main Step 1., you must also execute Step 4. further below.

1. Go to **CONFIGURATION > Configuration Tree > Assigned Services > Firewall > Firewall Forwarding Settings**.
2. In the left menu, click **Authentication**.
3. In the **Authentication Server Configuration** section, import the **Private Key** and the **Certificate**.
4. In the **Metadirectory Authentication** section, set the following values:
  - **Authentication Scheme** - Select **SAML/ADFS** from the list.
  - **Listen IP** - Enter the listening address of the CloudGen Firewall's authentication daemon.


- **Request Timeout** – Set the value for the timeout for requests.
- **User ACL Policy**
  - Set the value to **deny-explicit** if you want only domain users listed in User ACL to be blocked.
  - Set the value to **allow-explicit** if you want only domain users listed in User ACL to be allowed.
- **User ACL** – Click **+** to add or **x** to remove users to or from the ACL list.
- **URL Filter Overrid Users** – Click **Set/Edit** to configure user-specific credentials.


## Step 2. Configure General AD FS Settings for SAML, Identity Provider, and Certificates


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1. Go to **CONFIGURATION > Configuration Tree > Infrastructure Service > SAML/ADFS Authentication**.
2. Set **Activate Scheme** to **yes**.
3. For **Method**, select **SAML**.
4. In the section **SAML Configuration**, enter the IP address for **Service Provider Entity ID**.
5. In the section **Identity Provider**, click **Ex/Import** to import the identity provider's metadata. The metadata in the imported XML file contains important information about the identity provider and the person's identity and is commonly generated by AD FS.
6. In the section **Certificates**, configure:
  - **Service Provider Private Key for Encryption**
    - **New Key** – Click to create a new key.
    - **Ex/Import** – Click to ex/import a key for encryption.
  - **Service Provider Certificate for Encryption**
    - **Show** – Click to show the provider certificate.
    - **Ex/Import** – Click to ex/import a certificate for encryption.
  - **Service Provider Private Key for Signing**
    - **New Key** – Click to create a new private key for signing.
    - **Ex/Import** – Click to ex/import a certificate for encryption.
  - **Service Provider Certificate for Signing**
    - **Show** – Click to show the provider certificate for signing.
    - **Ex/Import** – Click to ex/import the service provider certificate for signing.
7. Click **Send Changes**.
8. Click **Activate**.

**SAML General Information**


Activate Scheme  

Method  

Number of Processes  


---


**SAML Configuration**

Service Provider Entity Id  

---





**Identity Provider**

Identity Provider Metadata  No data set 

Set Remote User  


---


**Certificates**

Service Provider Private Key for Encr...	<input type="button" value="New Key..."/>	<input type="text" value="Ex/Import"/>	No key present	
Service Provider Certificate for Encry...	<input type="button" value="Show..."/>	<input type="text" value="Ex/Import"/>	No certificate present	
Service Provider Private Key for Sign...	<input type="button" value="New Key..."/>	<input type="text" value="Ex/Import"/>	No key present	
Service Provider Certificate for Signing	<input type="button" value="Show..."/>	<input type="text" value="Ex/Import"/>	No certificate present	

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**Service Provider Metadata**

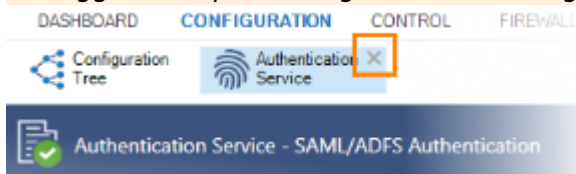
 *The Service Provider metadata field is read-only. The data will be available after activation of the SAML/ADFS configuration.*

SP Metadata  DATA set 

9. Click **Activate**.

10. Close the tab **Authentication Service**.

It is important to explicitly close the tab for Authentication Service because closing will trigger data processing for the following step.

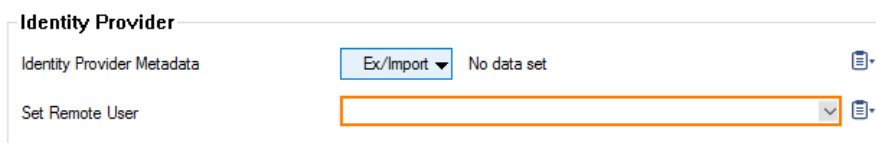


After clicking **Activate** and closing the Authentication Service tab, the user's attributes stored in the **Identity Provider Metadata** will be extracted to the list for **Set Remote User**.

### Step 3. Configure a Specific Attribute for the Authentication of the Remote User

1. Click the field of the list for **Set Remote User**.

2. Select an attribute that optimally fits the configuration of the remote user.
3. Click **Send Changes**.
4. Click **Activate**.



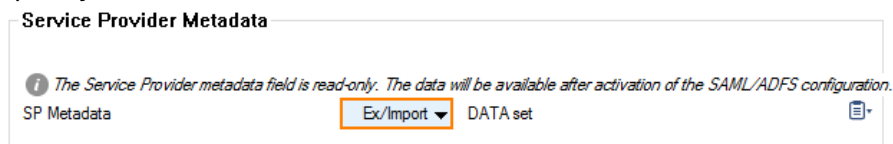
5. Close the tab **Authentication Service**.

It is important to explicitly close the tab for Authentication Service because closing will trigger data processing for the following step.



## Step 4. Export the Service Provider Metadata


1. Click **Ex/Import** in the section **Service Provider Metadata** to export the metadata.
2. Specify a location where to store the file.



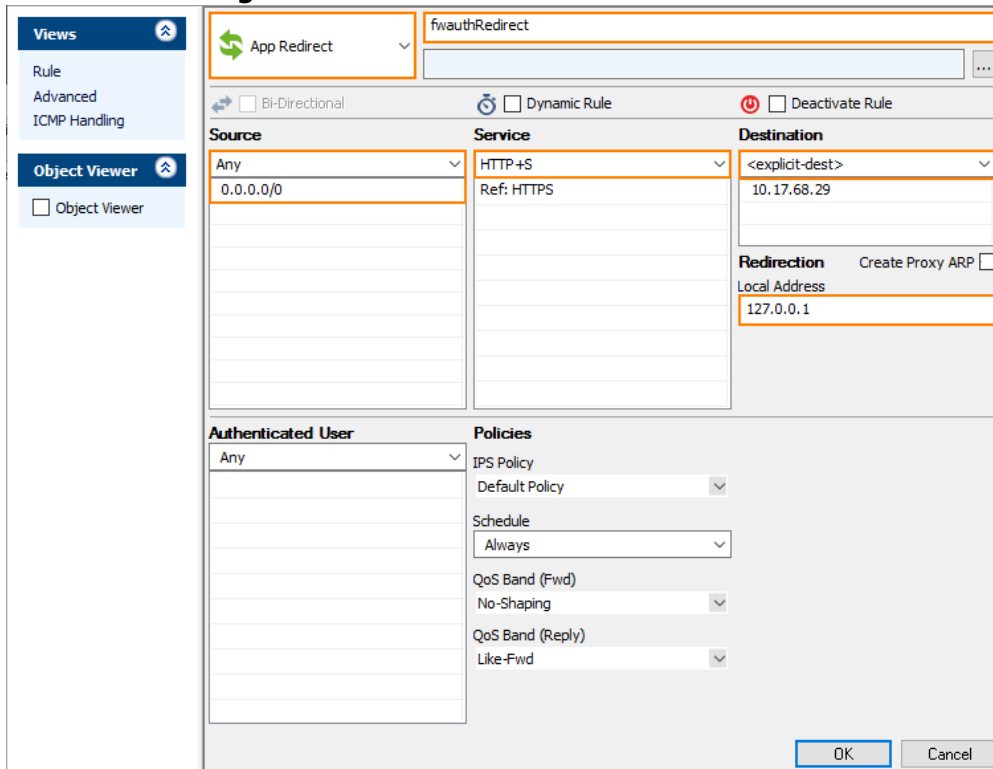
3. Click **Send Changes**.
4. Click **Activate**.
5. Close the tab **Authentication Service**.

## Step 5. Create Access Rules for Authenticating with AD FS

Create an access rule for redirecting users for authentication.


1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Either click the plus icon (+) in the top right of the ruleset, or right-click the ruleset and select **New > Rule**.  

4. Select **App Redirect** as the action.
5. Enter a **Name** for the rule. For example, fwauthredirect.
6. Specify the following settings that must be matched by the traffic to be handled by the access rule:

- **Source** - The source addresses of the traffic, e.g., 0.0.0.0/0.
  - **Service** - Select **HTTPS** from the list.
  - **Destination** - Enter the IP address of the CloudGen Firewall, e.g., 10.17.68.29.
7. Enter the **Redirection** IP address and optional port as the **Local Address**. For example, 127.0.0.1.
  8. Click **OK**.
  9. Drag and drop the access rule so that it is the first rule that matches the traffic that you want it to forward. Ensure that the rule is located *above* the BLOCKALL rule; rules located below the BLOCKALL rule are never executed.
  10. Click **Send Changes** and **Activate**.

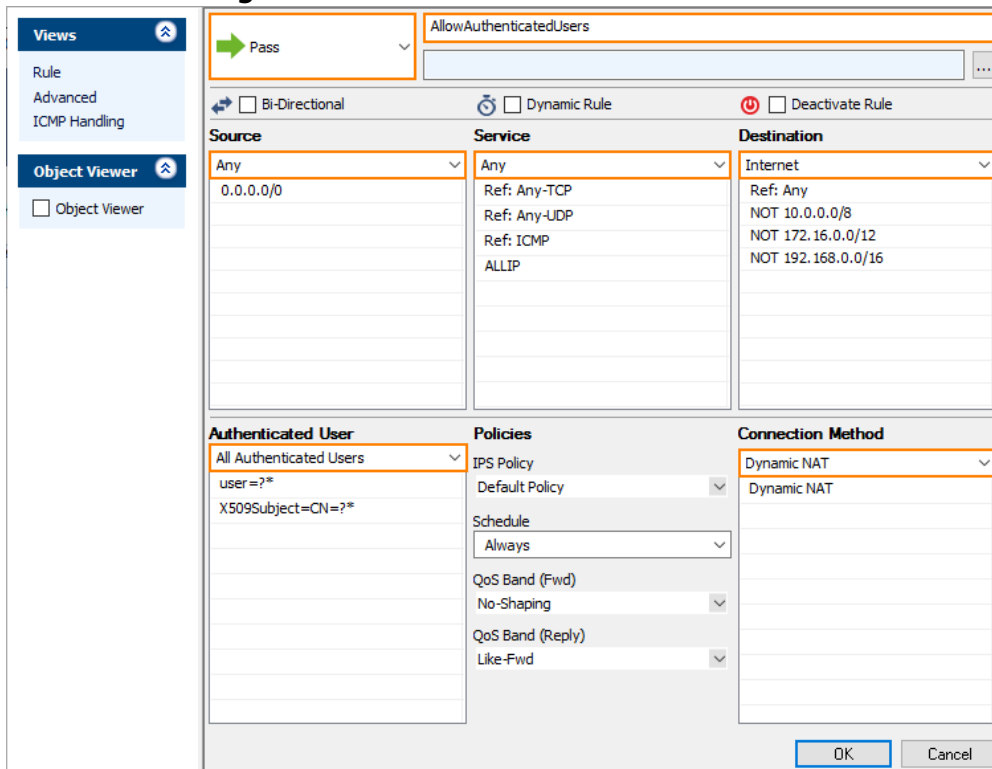


## Step 6. Create an Access Rule for Passing Authenticated Users

Authenticated users can be passed on when authenticated already.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Either click the plus icon (+) in the top right of the ruleset, or right-click the ruleset and select **New > Rule**.  

4. Select **Pass** as the action.
5. Enter a **Name** for the rule. For example, AllowAuthenticatedUsers.

6. Specify the following settings that must be matched by the traffic to be handled by the access rule:
  - **Source** – The source addresses of the traffic, e.g., 0.0.0.0/0.
  - **Service** – Select **ANY** from the list.
  - **Destination** – Select **Internet**.
7. **Authenticated User** – Select **All Authenticated Users** from the list.
8. **Connection Method** – Select **Dynamic NAT** from the list.
9. Click **OK**.
10. Drag and drop the access rule so that it is the first rule that matches the traffic that you want it to forward. Ensure that the rule is located *above* the BLOCKALL rule; rules located below the BLOCKALL rule are never executed.
11. Click **Send Changes** and **Activate**.



The screenshot shows the configuration window for an access rule named "AllowAuthenticatedUsers". The rule is set to "Pass" and is not bi-directional, dynamic, or deactivated. The configuration is as follows:

Source	Service	Destination
Any 0.0.0.0/0	Any Ref: Any-TCP Ref: Any-UDP Ref: ICMP ALLIP	Internet Ref: Any NOT 10.0.0.0/8 NOT 172.16.0.0/12 NOT 192.168.0.0/16

Authenticated User	Policies	Connection Method
All Authenticated Users user=?* X509Subject=CN=?*	IPS Policy Default Policy Schedule: Always QoS Band (Fwd): No-Shaping QoS Band (Reply): Like-Fwd	Dynamic NAT Dynamic NAT

Buttons: OK, Cancel

You can now authenticate against AD FS.

## Figures

1. adfs\_overview01.png
2. configure\_saml\_adfs\_authentication\_scheme\_step1.png
3. configure\_saml\_adfs\_authentication\_scheme\_step2a.png
4. configure\_saml\_adfs\_authentication\_scheme\_step2.png
5. configure\_saml\_adfs\_authentication\_scheme\_step2a.png
6. configure\_saml\_adfs\_authentication\_scheme\_step3.png
7. FW\_Rule\_Add01.png
8. fwauthRedirect\_access\_rule\_01.png
9. FW\_Rule\_Add01.png
10. allowAuthenticatedUsers\_access\_rule.png

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