

# Setting up a reverse proxy for ADSelfService Plus using Apache HTTP Server

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## Document summary

This guide will walk you through the process of securely deploying ADSelfService Plus to remote users using Apache HTTP Server as a reverse proxy.

## Prerequisites

Enter the reverse proxy server's IP address in the **server.xml** file under the installation directory using these steps:

- Access the **conf** folder in the ADSelfService Plus installation directory (by default, **C:\Program Files\ManageEngine\ADSelfService Plus\conf**).
- Open the **server.xml** file in the **conf** folder.
- Navigate to the below section:

```
<!--Valve className="org.apache.catalina.valves.RemotelpValve"  
remotelpHeader="x-forwarded-for" proxiesHeader="x-forwarded-by"  
requestAttributesEnabled="true" internalProxies="127\.0\.0\.1|0\:0\:0\:0\:0\:0\:1"/-->
```
- Uncomment the line, and add the <enter server name>\* server's IP address as shown:

```
<Valve className="org.apache.catalina.valves.RemotelpValve"  
remotelpHeader="x-forwarded-for" proxiesHeader="x-forwarded-by"  
requestAttributesEnabled="true" internalProxies="<IP_address >"/>
```

## What is a reverse proxy and how does it work?

Before jumping into the configuration steps, let's talk about what a reverse proxy is. In computer networks, a reverse proxy is a type of proxy server that retrieves resources on behalf of a client (user) from one or more servers (ADSelfService Plus). These resources are then returned to the client as though they originated from the reverse proxy itself. A reverse proxy is used as a strategic point in the network to enforce web application security.

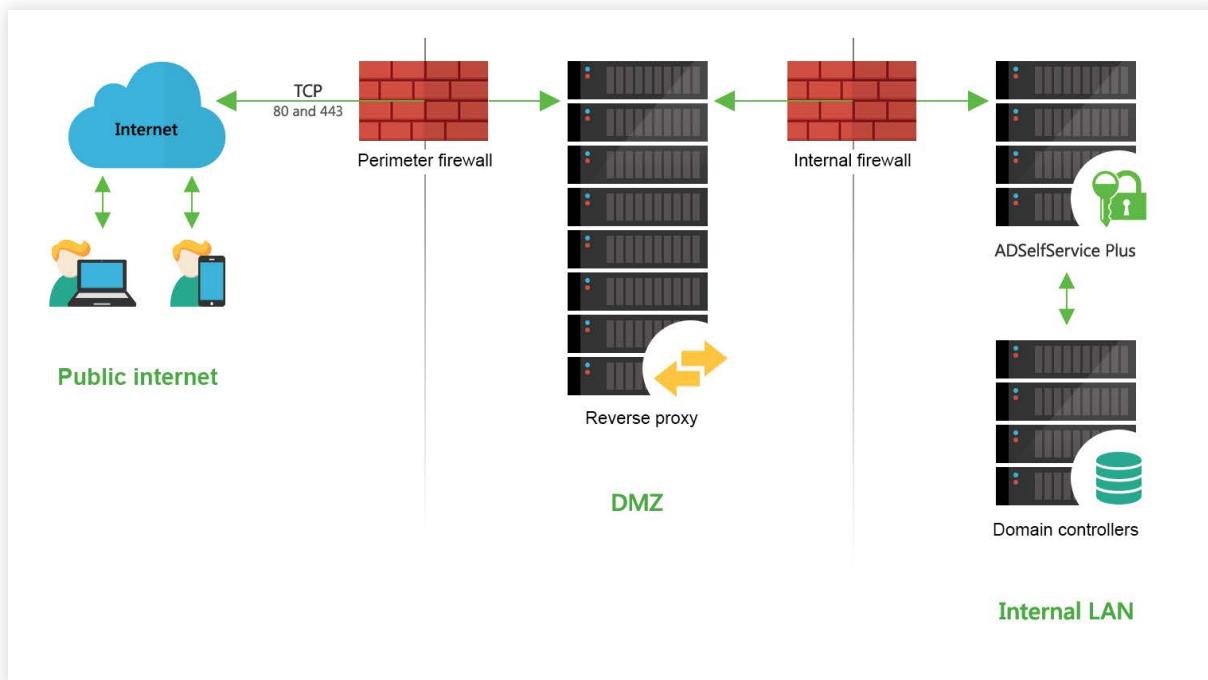


Figure 1: A reverse proxy server in a DMZ, while the ADSelfService Plus server is hosted in the intranet.

As shown in the figure above, ADSelfService Plus works with reverse proxy servers. In our example above, requests from clients (users) are received by the reverse proxy server (Apache server) in the DMZ. The reverse proxy server then forwards those requests to the ADSelfService Plus server in the LAN. If needed, the ADSelfService Plus server can also be placed in the DMZ. In either case, external machines never connect directly to the ADSelfService Plus server.

Your firewall will only permit the proxy server to access the ADSelfService Plus server, and only through the required port.

**Important note:** Once you enable reverse proxy, please update the **Access URL** settings in ADSelfService Plus by navigating to **Admin > Product Settings > Connection** and clicking **Configure Access URL**.

#### Note for FIDO passkey users:

- If you have configured FIDO passkey authentication, updating the Access URL will modify the preconfigured FIDO RP ID, resulting in loss of enrollment data and disenrollment of all users.
- If you are planning on configuring FIDO passkey authentication, ensure that the Access URL is modified after enabling reverse proxy before configuring FIDO passkey authentication to prevent loss of enrollment data.

# Configuring Apache HTTP Server as a reverse proxy for ADSelfService Plus

Now, let's look at how to configure a reverse proxy for ADSelfService Plus using an Apache server. For this configuration, we're using Apache HTTP Server version 2.4.

## Important:

- This configuration assumes that the reverse proxy server is placed in a DMZ, and the ADSelfService Plus server and the domain controllers are in an internal LAN.
- We've used the default values for IP addresses, port numbers, file locations, etc. in the steps provided. If you've changed any default settings in ADSelfService Plus or your Apache server, make sure those changes are reflected in these steps.
- Make sure you have opened the port that will be used in the Apache server configuration for TCP access (80 for HTTP and 443 for HTTPS, by default) in Windows Firewall.

## Step 1: Make changes in your Apache server

Note: The following changes apply to scenarios where HTTPS is enabled on the ADSelfService Plus server.

1. Navigate to **C:\Program Files\Apache Software Foundation\Apache2.4\conf**.
2. Open the **httpd.conf** file in a text editor.
3. Uncomment the following lines:

```
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_ajp_module modules/mod_proxy_ajp.so
LoadModule proxy_balancer_module modules/mod_proxy_balancer.so
LoadModule proxy_connect_module modules/mod_proxy_connect.so
LoadModule proxy_ftp_module modules/mod_proxy_ftp.so
LoadModule proxy_http_module modules/mod_proxy_http.so
LoadModule proxy_scgi_module modules/mod_proxy_scgi.so
LoadModule slotmem_shm_module modules/mod_slotmem_shm.so
LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
LoadModule ssl_module modules/mod_ssl.so
Include conf/extra/httpd-vhosts.conf
Include conf/extra/httpd-ssl.conf
```

4. Navigate to **C:\Program Files\Apache Software Foundation\Apache2.4\conf\extra**.
5. Open the **http-vhost.conf** file in a text editor.
6. Add the entries below:

```
<VirtualHost *:443>
ServerAdmin admin@test.com
ServerName adselfserviceplus.yourdomain.com
SSLEngine on
SSLProxyEngine on
SSLProxyVerify none
SSLProxyCheckPeerCN off
SSLProxyCheckPeerName off
SSLProxyCheckPeerExpire off
SSLCertificateFile "C:\Program Files\Apache Software Foundation\Apache2.4\conf\server.crt"
SSLCertificateKeyFile "C:\Program Files\Apache Software Foundation\Apache2.4\conf\server.key"
<Location />
ProxyPass https://192.168.200.254:9251/
ProxyPassReverse https://192.168.200.254:9251/
</Location>
ErrorLog "logs/ADSelfServicePlus.log"
CustomLog "logs/ADSelfServicePlus.log" common
</VirtualHost>
```

**Note:** Update the ADSelfService Plus portal access URL with the Apache HTTP Proxy hostname specified in the ServerName directive. For more details on the directive's configuration and usage, refer to the [Apache documentation](#).

7. Open **C:\Program Files\Apache Software Foundation\Apache2.4\conf\extra\httpd-ssl.conf** file. Locate the following entries and make the necessary changes:

```
ServerName adselfserviceplus.yourdomain.com
ServerAdmin admin@test.com
SSLCertificateFile "C:/Apache24/conf/server.crt"
SSLCertificateKeyFile "C:/Apache24/conf/server.key"
```

8. **Restart the Apache server** for the changes to take effect.

## Step 2: Make changes in ADSelfService Plus

Based on whether you've enabled HTTPS or not, the steps for making changes in ADSelfService Plus may vary.

### ADSelfService Plus in HTTPS mode

1. Navigate to `<install_dir>\conf`. By default, this folder is listed under `C:\Program Files\ManageEngine\ADSelfService Plus\conf`.
2. Open the `server.xml` file in a text editor.
3. Search for the connector tag that contains the element `SSLEnabled="true"` (i.e. `<Connector SSLEnabled="true"`).
4. Add the following entry:  
`proxyName="<apache-server-ip-address>" proxyPort="443"`
5. Save the changes.
6. Restart **ADSelfService Plus** to see the changes take effect.

### ADSelfService Plus in HTTP mode

1. Navigate to `<install_dir>\conf`. By default, this folder is listed under `C:\Program Files\ManageEngine\ADSelfService Plus\conf`.
2. Open the `server.xml` file in a text editor.
3. Search for the connector tag that contains the `name="WebServer"` element (i.e. `<Connector name="WebServer"`).
4. Add the following entry:  
`scheme="https" proxyName="<apache-server-ip-address>" proxyPort="443"`
5. Save the changes.
6. Restart **ADSelfService Plus** to see the changes take effect.

You have now set up a reverse proxy for ADSelfService Plus using Apache HTTP Server.

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If you have any questions, please contact [support@adselfserviceplus.com](mailto:support@adselfserviceplus.com). One of our product experts will be happy to help you.



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ADSelfService Plus is an identity security solution to ensure secure and seamless access to enterprise resources and establish a Zero Trust environment. With capabilities such as adaptive multi-factor authentication, single sign-on, self-service password management, a password policy enhancer, remote work enablement and workforce self-service, ADSelfService Plus provides your employees with secure, simple access to the resources they need. ADSelfService Plus helps keep identity-based threats out, fast-tracks application onboarding, improves password security, reduces help desk tickets and empowers remote workforces.

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