Configure Active Directory Authentication in SWA

Contents

Introduction

This document describes the steps to Configure Active Directory Authentication in Secure Web Appliance (SWA).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- SWA administration.
- Basic Networking and Proxy protocols.
- Basic Active Directory administration.

Cisco recommends that you have these tools installed:

- Physical or Virtual SWA.

- Administrative Access to the SWA Graphical User Interface (GUI).
- Administrative Access to the Active Directory.

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Checklist

Before connecting SWA to Active Directory, please ensure that all required checks have been completed:

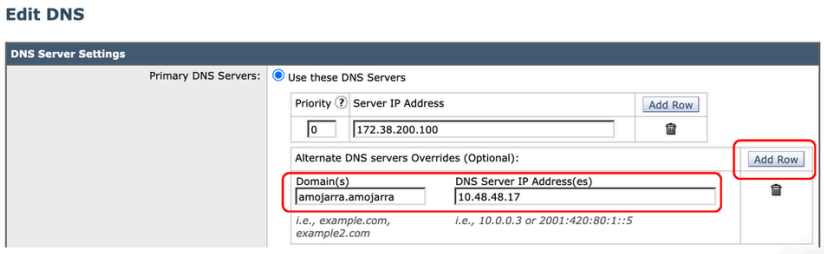
- SWA has proper network access to the Active Directory. for more information kindly visit: Configure Firewall for Secure Web Appliance.
- DNS record for SWA host name is created in the Active Directory. (**CLI** > **sethostname**)

Note: In transparent mode, ensure that the Secure Web Appliance hostname matches the **Redirect Hostname**.

- DNS records for SWA interfaces are created in the Active Directory.
- Compare the current time on the Secure Web Appliance with the time on the Active Directory server, and ensure that the difference does not exceed the value defined in the “Maximum tolerance for computer clock synchronization” setting on the Active Directory server.
- Confirm that you have the necessary permissions and domain information required to join the Secure Web Appliance to the Active Directory domain you intend to use for authentication.
    - Create a user on the Active Directory server that is a member of the **Domain Admins** or **Account Operators** group.
    - Alternatively, create a user with the minimum required permissions: **Reset Password**, Validated write to **servicePrincipalName**, Write **account restrictions**, Write **dNSHostName**, and Write **servicePrincipalName**. These permissions are sufficient to join the appliance to the domain and ensure full functionality.
- Make sure SWA can resolve the Active Directory FQDN.

Configuring the Active Directory

Use these steps to configure an Upstream Proxy in SWA.

Steps	Details
Step 1. Collect the Information from SWA	**Step 1.1.**From SWA **CLI**, run**sethostname** to view the current SWA hostname. **Note**: If you would like to change the current hostname, type the new hostname and press Enter, then commit changes by executing **commit** command. **Step 1.2.** From SWA GUI, navigate to **Network**, select **Interfaces**, to view the interfaces FQDN. if you would like to change the current interfaces FQDN, click **Edit Settings** and make the changes then **commit**. **Step 1.3.**From the SWA **GUI**, navigate to **System Administration** and click **Time Settings**, make sure the NTP settings are correct. **Step 1.4.** From SWA GUI, navigate to **Network**, select **DNS**, make sure the correct DNS server is defined. **Tip**: If SWA is configured with public DNS server and you would like to define different DNS server for your Active Directory Domain, Click **Edit Setting** and on the **Alternate DNS servers Overrides (Optional)** section, define the Active Directory Domain name and the DNS server IP address, then **submit** and **commit** changes.  *Image - Add Alternate DNS Servers*
Step 2. Configure the DNS Records in Active Directory	**Step 2.1.** Connect to your Active Directory server and navigate to **DNS Manager** console. **Step 2.2.** Select the desired Domain name from the Left panel. **Step 2.3.** In the right panel, right click and choose **New Host (A or AAAA)**

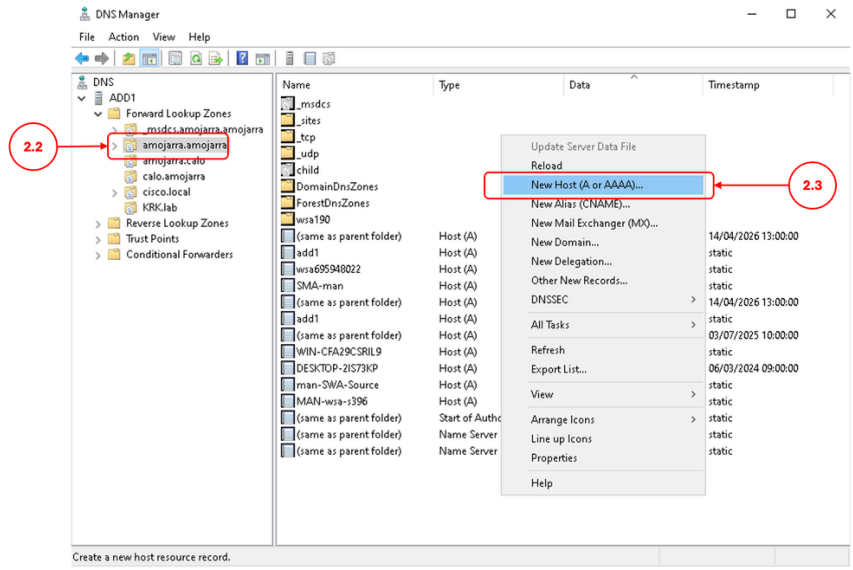


Image - Create a new A Record

Step 2.4. Define the DNS Record for the SWA hostname (Collected on **Step 1.1**)

> ⚠ **Caution**: If the Active Directory is connecting to the SWA via Management Interface, define the Management IP address, else define the correct IP address of the SWA that Active Directory has access to (P1 interface IP Address or P2 interface IP address)

Step 2.5. Define the DNS Record for each SWA interfaces.

Step 2.6. (**Optional**) If you are using High Availability, define a DNS record for the High Availability FQDN with the defined Virtual IP address.

Step 3. Configure Active Directory Realm

Step 3.1. From SWA GUI, navigate to **Network**, select **Authentication**.

Step 3.2. Click **Add Realm**.

Step 3.3. Define a **Realm Name**.

Step 3.4. From the **Authentication Server Type and Scheme(s)** Choose **Active Directory**.

Step 3.5. By default SWA uses the Management interface to connect to the Active Directory, if you would like to change this settings, click **Set Source Interface** and choose the desired **Interface**.

Step 3.6. Define the **hostname** or **IP address** of the **Active Directory Domain** Controller(s).

Step 3.7. Enter the **Active Directory Domain** name.

Step 3.8. (**Optional**) If you would like to store the Computer Account in a different Organization Unit (OU) in the Active Directory, define the desired location

Step 3.9. Click Join Domain.

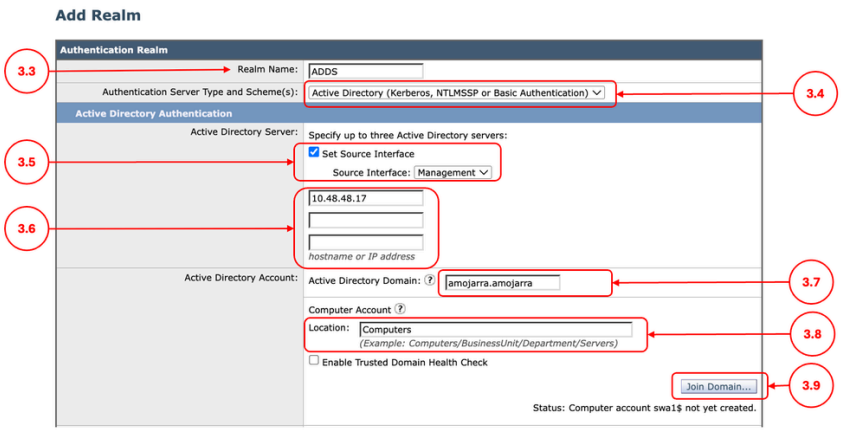


Image - Add Realm

Step 3.10. Enter the Username and Password and click **Join**.

Tip: Do not include the domain name with the user name (for example, enter "SWA_ADMIN" rather than "DOMAIN\SWA_ADMIN" or "SWA_ADMIN@domain").

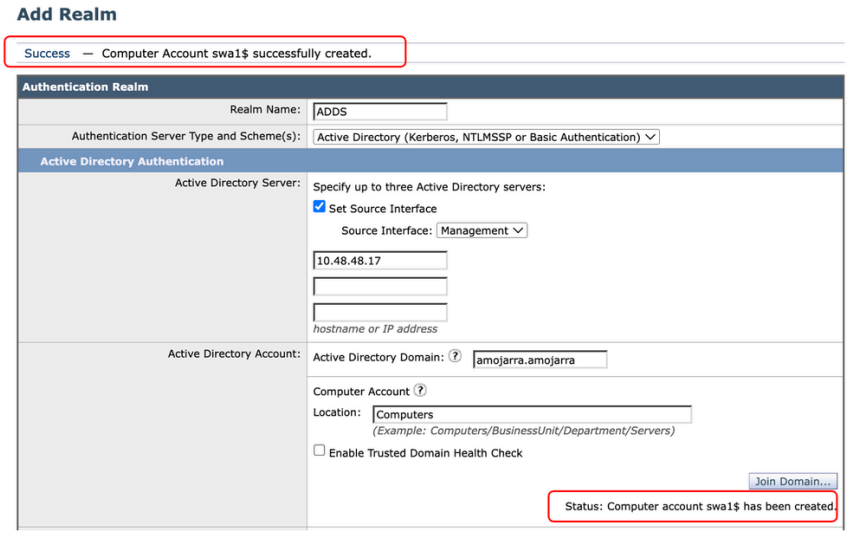


Image - SWA Joined the AD Successfully

Step 3.11. Submit

Step 3.12. Commit the changes.

Troubleshooting

Warning: Clock skew between WSA and AD server is too great

This Error indicates that the time between the Active Directory and the SWA is not sync. use **Step 1.3.** to correct the time on the SWA

```
Warning: Clock skew between WSA 'Thu Apr 16 08:25:17 2026' and AD server 'Wed Apr 15 08:30:30 2026' is
Warning: Clock skew between WSA 'Thu Apr 16 08:25:17 2026' and AD server 'Wed Apr 15 08:30:30 2026' is
```

Unable to Resolve swa1.*.* "Unknown hostname" Failure

This error indicates that the SWA cannot resolve its own Interface and the hostname via the DNS server. Confirm that the SWA is configured with the correct DNS server (Step 1.4) and sse Step 2 to crete the missing DNS records.

```
Failure: Unable to resolve 'swa1.amojarra.amojarra' : Unknown hostname
```

Tip: If after correcting the DNS server or DNS records you are still receiving the same error clear the DNS cache from **GUI** > **Network** > **DNS** > **Clear DNS Cache**.

Unable to Resolve ADD1.*.* : "Unknown hostname" Failure

This Error indicates that the SWA cannot resolve the DNS records related to the Active Directory. Use Step 1.4 to configure the correct DNS server for your Active Directory domain.

```
Failure: Unable to resolve 'ADD1.amojarra.amojarra' : Unknown hostname
```

Tip: If after correcting the DNS server or DNS records you are still receiving the same error clear the DNS cache from **GUI** > **Network** > **DNS** > **Clear DNS Cache**.

Error while Fetching Kerberos Tickets from Server: "kinit: Password incorrect" Failure

This Error indicates that the username or password used to connect to the Active directory is incorrect.

```
Failure: Error while fetching Kerberos Tickets from server '10.48.48.17' : kinit: Password incorrect
```

Cannot Join Domain: Failed to Precreate Account: "Insufficient access"

This Error indicates that the user lacks the minimum required privileges to create the computer account. kindly check the user privileges according to the Check List section in this article.

```
Failure: Error while joining WSA onto server '10.48.48.17' : ads_print_error: AD LDAP ERROR: 50 (Insuff
```

Related Information

- User Guide for AsyncOS 15.0 for Cisco Secure Web Appliance
- Configure Firewall for Secure Web Appliance
- Configure Custom URL Categories in Secure Web Appliance - Cisco
- How To Exempt Office 365 Traffic From Authentication and Decryption on Cisco Web Security Appliance (WSA) - Cisco
- Use Secure Web Appliance Best Practices - Cisco
- Block Traffic in Secure Web Appliance
- Block Upload Traffic in Secure Web Appliance
- Block Executable File Download in SWA
- Bypass Microsoft Updates Traffic in Secure Web Appliance
- Bypass Authentication in Secure Web Appliance - Cisco