# Kerberos authentication between multiple domains may fail on LiveCycle Rights Management ES 8.2.1

## Issue

There is an issue in LiveCycle Rights Management ES, version 8.2.1, where Active Directory users who do not belong to the same domain as the LiveCycle ES server cannot log in using Kerberos authentication. The authentication screen appears when the certificate is passed to Acrobat. This behavior is incorrect.

This issue occurs under the following conditions:

- Your LiveCycle ES 8.2.1 environment has two Active Directory domains in a trust relationship with each other.
- The domains are synchronized into two separate User Management domains.
- Kerberos-based authentication is enabled on both domains.

## Resolution

To resolve this issue, you must apply the LiveCycle ES Quick Fix 0.17, export the config.xml file from LiveCycle Administration Console, make the modifications described below and then reimport the config.xml file.

There are two main tasks required to modify the config.xml file:

- For each domain in your configuration, you will add a node in its `AuthConfigs` node that contains the Kerberos configuration of the other domains.
- In the *`[LiveCycleES_domain]`*`\AuthProviders\Kerberos` node, you will add the locations of the new nodes to the : (colon) separated list in the `configInstance` property.

**Note:** For Active Directory 2003 users, the username entered as the Service User for the Kerberos authorization must be set on the server providing the Kerberos authorization. Do this by typing the following at a command prompt:

```
setspn -A <LC_server_name>/<LC_server_name> <username>
```

You must run this command for the Service User on each Active Directory 2003 server.

1. Apply the LiveCycle ES Quick Fix 0.17 available from Adobe Support by following the instructions provided.
2. Once you have successfully applied the quick fix, open a web browser, navigate to http://*[host name]*:*[port]*/adminui and log in.
3. Navigate to **Settings > User Management > Configuration > Import and export configuration files**.
4. Click **Export** to download a copy of the config.xml file.
5. Open the config.xml file in an editor.
6. For each domain, add a node under `AuthConfigs` containing the Kerberos configuration of the other domains. See code example below.

7. Locate the `UM\AuthProviders\Kerberos` node and add the locations of the new nodes in the value of the `configInstance` property. The values must be separated by colons.

   **Note:** You must enter the password for the authorized Service User of each new node added. For security reasons, existing password values are left blank in the exported config.xml file but the values will be required for the new nodes when you import the file.

8. Save and close the config.xml file.

9. In LiveCycle Administration Console, return to **Settings > User Management > Configuration > Import and export configuration files**.

10. On the Manual Configuration screen, ensure that User Management is selected as the configuration to import.

11. In the **Select a configuration file to import** box, enter the full path and file name of the edited config.xml or click **Browse** to navigate to it.

12. Click **Import** to continue. A message will appear on the screen indicating that the file was successfully imported.

13. Click **OK** to confirm the updated settings.

## Example

For this example, there are two domains with Kerberos enabled: *server1* and *server2*. The unedited values in the newly exported config.xml file would resemble the following (examples of the modified values follow):

1. 
```
<node name="UM">
   <node name="AuthProviders">
      <node name="Kerberos">
      ...
         <entry key="configInstance"
         value=/Adobe/LiveCycle/Config/UM/Domains/server1/AuthConfigs/server1_
         kerberos:/Adobe/LiveCycle/Config/UM/Domains/server2/AuthConfigs/serve
         r2_kerberos
```

2. 
```
<node name=”UM”>
  <node name=”Domains”>
    <node name=”server1”>
      <node name=”AuthConfigs”>
      <map/>
      <node name="server1_kerberos">
      <map>
      <entry key="serviceRealm" value="server1.COM"/>
      <entry key="kerbDebug" value="false"/>
      <entry key="authProviderNode"
      value="/Adobe/LiveCycle/Config/UM/AuthProviders/Kerberos"/>
      <entry key="spnegoEnabled" value="false"/>
      <entry key="dnsIp" value="10.40.4.249"/>
      <entry key="servicePassword" value=""/>
      <entry key="serviceUser" value="service_server1"/>
      <entry key="kdcHost" value="kdchost1"/>
      </map>
    </node>
  </node>
```

3. 
```
<node name=”UM”>
  <node name=”Domains”>
    <node name=”server2”>
      <node name=”AuthConfigs”>
      <map/>
      <node name="server2_kerberos">
      <map>
        <entry key="serviceRealm" value="UM.LC.COM"/>
        <entry key="kerbDebug" value="false"/>
        <entry key="authProviderNode"
        value="/Adobe/LiveCycle/Config/UM/AuthProviders/Kerberos"/>
        <entry key="spnegoEnabled" value="false"/>
        <entry key="dnsIp" value="10.40.4.247"/>
        <entry key="servicePassword" value=""/>
        <entry key="serviceUser" value="service_user2"/>
        <entry key="kdcHost" value="kdchost2"/>
      </map>
    </node>
  </node>
```

The following examples show the values after the Kerberos settings have been copied for each domain into a new node in the `AuthConfigs` node:

1. 
```
<node name=”UM”>
  <node name=”AuthProviders”>
    <node name=”Kerberos”>
    ...
      <entry key=”configInstance”
      value=/Adobe/LiveCycle/Config/UM/Domains/server1/AuthConfigs/server1_
      kerberos:/Adobe/LiveCycle/Config/UM/Domains/server1/AuthConfigs/serve
      r1_kerberos02:/Adobe/LiveCycle/Config/UM/Domains/server2/AuthConfigs/
      server2_kerberos:/Adobe/LiveCycle/Config/UM/Domains/server2/AuthConfi
      gs/server2_kerberos02
```

2. 
```
<node name=”UM”>
  <node name=”Domains”>
    <node name=”server1”>
      <node name=”AuthConfigs”>
      <map/>
      <node name="server1_kerberos">
      <map>
      <entry key="serviceRealm" value="server1.COM"/>
      <entry key="kerbDebug" value="false"/>
      <entry key="authProviderNode"
      value="/Adobe/LiveCycle/Config/UM/AuthProviders/Kerberos"/>
      <entry key="spnegoEnabled" value="false"/>
      <entry key="dnsIp" value="10.40.4.249"/>
      <entry key="servicePassword" value=""/>
      <entry key="serviceUser" value="service_server1"/>
      <entry key="kdcHost" value="kdchost1"/>
      </map>
    </node>
    <node name="server1_kerberos02">
    <map>
      <entry key="serviceRealm" value="UM.LC.COM"/>
      <entry key="kerbDebug" value="false"/>
      <entry key="authProviderNode"
      value="/Adobe/LiveCycle/Config/UM/AuthProviders/Kerberos"/>
      <entry key="spnegoEnabled" value="false"/>
      <entry key="dnsIp" value="10.40.4.247"/>
      <entry key="servicePassword" value=""/>
      <entry key="serviceUser" value="service_user2"/>
      <entry key="kdcHost" value="kdchost2"/>
    </map>
  </node>
```

```
   </node>
</node>
```

3. 
```
<node name="UM">
   <node name="Domains">
      <node name="server2">
         <node name="AuthConfigs">
         <map/>
         <node name="server2_kerberos">
         <map>
           <entry key="serviceRealm" value="UM.LC.COM"/>
           <entry key="kerbDebug" value="false"/>
           <entry key="authProviderNode"
           value="/Adobe/LiveCycle/Config/UM/AuthProviders/Kerberos"/>
           <entry key="spnegoEnabled" value="false"/>
           <entry key="dnsIp" value="10.40.4.247"/>
           <entry key="servicePassword" value=""/>
           <entry key="serviceUser" value="service_user2"/>
           <entry key="kdcHost" value="kdchost2"/>
         </map>
         </node>
         <node name="server2_kerberos02">
         <map>
           <entry key="serviceRealm" value="server1.COM"/>
           <entry key="kerbDebug" value="false"/>
           <entry key="spnegoEnabled" value="false"/>
           <entry key="authProviderNode"
           value="/Adobe/LiveCycle/Config/UM/AuthProviders/Kerberos"/>
           <entry key="dnsIp" value="10.40.4.249"/>
           <entry key="servicePassword" value=""/>
           <entry key="serviceUser" value="service_server1"/>
           <entry key="kdcHost" value="kdchost1"/>
         </map>
      </node>
   </node>
```