

---

Article

[Justin Lavoie](#) · Nov 7, 2016 5m read

## Changing the Registry Endpoint to the "/services" URL after Upgrading

After upgrading an Information Exchange/HealthShare instance that has a registry namespace, you may notice that the Caché audit log gets filled with frequent login failures by the HSServices user (check this by going to Management Portal > System Administration > Security > Auditing > View Audit Database). Clicking the “ details ” shows event data like:

```
Error message: Access Denied
CSP Application: /csp/healthshare/hsregistry
Authentication: Delegated
```

### Problem Background

Every time a remote HealthShare instance makes a call to the registry ( “ hsregistry ” in this example), it first fails delegated authentication, and then succeeds at password authentication (if the remote instance is failing to sync or communicate at all, address that problem first by confirming the correct credentials are being used). This issue appears after upgrading the registry instance to HealthShare Core 13 or higher from an earlier version, and is caused by changes in the new HealthShare and Caché versions. New installations of Core 13 or higher are not affected.

The goal this enhancement was to separate HealthShare user and web service calls into two different web applications that are able to handle authentication differently. Prior to Core 13, a web app named like "/csp/healthshare/hsregistry" handled authentication for both users and calls by web services. After upgrading, a new web app is created for each HealthShare namespace with a name ending in "/services", like "/csp/healthshare/hsregistry/services", which is configured to handle the web service calls. On a Core 13 instance installed from scratch, the logins by HSServices from remote edges and access gateways would be directed here, while the non-"/services" web application ("/csp/healthshare/hsregistry") would use delegated authentication to handle logins by users who need registry access.

However, this new approach is more difficult for the installer to implement on systems that are already operating. After upgrading from pre-Core 13, activating the HealthShare namespaces creates the "/services" web apps but doesn't automatically start using this version of the URL as the registry's endpoint. This cautious approach to upgrading the registry instance is meant to prevent it from suddenly being inaccessible to external systems that are still using the non-"/services" URL. Instead, the calls from these systems are allowed to first fail delegated authentication and then succeed at password authentication. This situation can persist on systems long after the upgrade, since it doesn't cause failures or Ensemble event log entries.

### Motivations for making this change

Even though the system will continue to work without taking any action, there are good reasons to follow these steps after upgrading. The flood of irrelevant messages in the audit log wastes space and can make it difficult to see important patterns of login errors. Also, having to first fail at delegated authentication causes these calls to take more time and waste system and network resources. Finally, separating services and users into different web applications opens up the possibility of improving security by using two-factor authentication (available on Core 15 and higher) for the users' web app.

## Steps to fix this problem

### 1. Change registry endpoint in the Service Registry.

Home | HealthShare Management | HSREGISTRY Management | About | Help | Logout

Service Registry Hide Connection Details Namespace: **HSREGISTRY** Server: **JLAVOIE6440**  
User: **\_SYSTEM** Instance: **CORE13UPGRADE**

Service Type: SOAP Search

Page size: 10 Results: 9 Page: < < 1 > > of 1

**Services currently defined:**

Name	Info
» HSREGISTRY	http://JLAVOIE6440:57790/csp/healthshare/hsregistry/services/HS.Hub.HSWS.WebServices.cls
JLAVOIE6440:HSACCESS	http://JLAVOIE6440:57790/csp/healthshare/hsaccess/services/HS.Gateway.Access.WebServices.cls
JLAVOIE6440:EDGE1	http://JLAVOIE6440:57791/csp/healthshare/edge1/services/HS.Gateway.HSWS.WebServices.cls
JLAVOIE6440:EDGE2	http://JLAVOIE6440:57791/csp/healthshare/edge2/services/HS.Gateway.HSWS.WebServices.cls
JLAVOIE6440:ACCESSGATEWAY	http://JLAVOIE6440:57791/csp/healthshare/accessgateway/services/HS.Gateway.Access.WebServices.cls
JLAVOIE6440:AG2	http://JLAVOIE6440:57791/csp/healthshare/ag2/services/HS.Gateway.Access.WebServices.cls
JLAVOIE6440:AG3	http://JLAVOIE6440:57791/csp/healthshare/ag3/services/HS.Gateway.Access.WebServices.cls
JLAVOIE6440:EDGE3	http://JLAVOIE6440:57791/csp/healthshare/edge3/services/HS.Gateway.HSWS.WebServices.cls
SYNC.C4355403-8C4D-4A7F-A106-1B364CB38EFF_HSSYS	http://JLAVOIE6440:57791/csp/healthshare/hssys/services/HS.Sync.Services.cls

Add Service Parse WebService URL

Name \* HSREGISTRY  
Timeout  
Device  
Home Community  
Assigning Authority  
Repository  
Device Function  
Delivery Destination  
Service Type \* SOAP

Type Specific Settings

Host JLAVOIE6440  
Port 57790  
SSL Configuration  
URL /csp/healthshare/hsregistry/services/HS.Hub.HSWS.WebService  
Soap Version  
Username Token Profile HS\_Services  
X509 Token Profile for Encryption  
X509 Token Profile for Digital Signing

Go to Management Portal > HealthShare > (then navigate to your registry namespace) > Registry Management > Service Registry. Select the entry with the same name as the registry namespace (HSREGISTRY in this example). In the "URL" field, add "/services" after the namespace. For example, change

/csp/healthshare/hsregistry/HS.Hub.HSWS.WebServices.cls

to

/csp/healthshare/hsregistry/services/HS.Hub.HSWS.WebServices.cls

Click "Save". This change should propagate to remote HealthShare instances within a few minutes, provided they are started and syncing with the registry. To confirm, you can check the SQL table "HSRegistryService.SOAP" on each remote namespace. Start or manually sync any namespaces that are missing "/services" in the EndPoint column of the registry 's entry in this table.

## 2. Update any other references to the old URL

If any external systems that communicate with the registry have the non-"/service" URL hard-coded (rather than pulling it from the Service Registry), update the URL there too. It is important to be sure no more web service calls will be made to the old URL before the next step. If you continue to see audit log login errors in the format shown at the top of this article, then some web service client hasn't been switched to the new URL yet.

## 3. Stop allowing web service calls on the non-"/services" web application.

This final step isn't necessary to eliminate the audit login failures, but is a good step to prepare for possible using two-factor authentication in the future. Go to Management Portal > System Administration > Security > Applications > Web Applications. Click the non-"/services" entry for the registry (for example, "/csp/healthshare/hsregistry"). Uncheck "Inbound Web Services" and click "Save". Watch the audit log to confirm there are no login failures caused by any remaining web service calls to this application. Only the checkbox for inbound web service calls should need to be changed after the upgrade, but for reference, here are screenshots of the non-"/services" and "/services" app settings, followed by text descriptions of the settings needed for the two apps to work as intended. The settings that aren't highlighted or mentioned might vary according to your needs:

Menu Home | About | Help | Logout System > Security Management > Web Applications > Edit Web Application

Edit: /csp/healthshare/hsregistry Server: JLAVOIE6440 Namespace: %SYS User: \_SYSTEM Licensed to: ISC HealthShare Instance: 16X1X2X6402XHUB

Save Cancel

Edit definition for web application /csp/healthshare/hsregistry:

General Application Roles Matching Roles

Name /csp/healthshare/hsregistry  
Required. (e.g. /csp/appname)

Description HealthShare Hub Portal

Namespace HSREGISTRY Default Application for HSREGISTRY: /csp/healthshare/hsregistry ☒ Namespace Default Application

Enabled ☒ Application ☒ CSP/ZEN ☐ Inbound Web Services  
☐ DeepSee ☐ iKnow

Permitted Classes

Security Settings  
Resource Required Group By ID %ISCMgtPortal  
Allowed Authentication Methods ☐ Unauthenticated ☒ Password ☐ Kerberos ☒ Delegated ☐ Login Cookie

Session Settings  
Session Timeout 900 seconds Event Class  
Use Cookie for Session Always Session Cookie Path /csp/healthshare/

Dispatch Class

CSP File Settings  
Serve Files Always and cached Serve Files Timeout 3600 seconds  
CSP Files Physical Path C:\InterSystems\16x1x2x6402xHUB\CSP\healthshare\hsregistry\ Browse...  
Package Name Default Superclass  
CSP Settings ☒ Recurse ☐ Auto Compile ☒ Lock CSP Name

Custom Pages  
Login Page Change Password Page  
Custom Error Page

In the non-"/services" web application:  
"CSP/ZEN" is checked  
"Inbound Web Services" is unchecked  
"Delegate" is checked

Menu

Home | About | Help | Logout

System > Security Management > Web Applications > Edit Web Application

Edit: /csp/healthshare/hsregistry/services

Server: JLAVOIE6440    Namespace: %SYS  
User: \_SYSTEM    Licensed to: ISC HealthShare    Instance: 16X1X2X6402XHUB

Save

Cancel

Edit definition for web application /csp/healthshare/hsregistry/services:

General

Application Roles

Matching Roles

Name: /csp/healthshare/hsregistry/services  
Required. (e.g. /csp/appname)

Description: HealthShare Hub Services

Namespace: HSREGISTRY    Default Application for HSREGISTRY: /csp/healthshare/hsregistry    ☐ Namespace Default Application

Enabled: ☒ Application    ☐ CSP/ZEN    ☒ Inbound Web Services  
☐ DeepSee    ☐ iKnow

Permitted Classes:

Security Settings: 

Resource Required:    Group By ID: %ISCMgtPortal

Allowed Authentication Methods: ☐ Unauthenticated    ☒ Password    ☐ Kerberos    ☐ Delegated    ☐ Login Cookie

Session Settings: 

Session Timeout: 900 seconds    Event Class:

Use Cookie for Session: Always    Session Cookie Path: /csp/healthshare/

Dispatch Class:

CSP File Settings: 

Serve Files: Always and cached    Serve Files Timeout: 3600 seconds

CSP Files Physical Path: C:\InterSystems\16x1x2x6402xHUB\CSP\healthshare\hsregistry\

Package Name:    Default Superclass:

CSP Settings: ☒ Recurse    ☐ Auto Compile    ☒ Lock CSP Name

Custom Pages: 

Login Page:    Change Password Page:

Custom Error Page:

In the "/services" web application:  
"CSP/ZEN" is unchecked  
"Inbound Web Services" is checked  
"Password" is checked  
"Delegate" is unchecked

## Other Considerations

After step 3, be aware that any remaining pre-Core 13 remote instances still won't know that the default hub endpoint contains "/services". For instance, if you create a new edge or access gateway on an old system, you will have to add this to the URL that the Installer Wizard generates. These productions may also take several minutes to sync for the first time. Upgrading the remote instances eliminates these minor issues.

These steps can be taken for other namespaces for which you are seeing login failures or plan to setup two-factor authentication. Note that buses, access gateways, and edges might have " /services " automatically added to their URLs when their productions are started for the first time after an upgrade. If you are running an IHE instance, the Service Registry entries for IHE components on the registry and bus namespaces won ' t be changed automatically, and calls to these endpoints may be a continued source of login errors.

[#HealthShare](#)

---

Source URL: <https://community.intersystems.com/post/changing-registry-endpoint-services-url-after-upgrading>