IBM Content Manager OnDemand Newsletter

1st Quarter 2024

In This Issue

News

About this newsletter

This newsletter is designed to keep you better informed about IBM® Content Manager OnDemand on all platforms. The newsletter is published quarterly.

Previous editions of this newsletter can be found in support item 628001.

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This newsletter is formatted so that it is easier to read on wide screen devices. Use the full screen viewing option in Adobe Reader or Acrobat (Ctrl+L) for best results.

Global IBM Content Manager OnDemand education

Hiring new Content Manager OnDemand administrators or needing a Content Manager OnDemand refresh? Maybe you were not trained and are simply creating Content Manager OnDemand definitions by copying old ones? Whatever your level of skill, now is a great time to get educated on several of the newer features of Content Manager OnDemand V10.5.

Make sure your Content Manager OnDemand team has a strong understanding of the fundamentals of the system, how to administer it, and its purpose.

OnDemand University (ODU) has moved from enChoice, Inc. to CMODSkills, LLC, an IBM-authorized Content Manager OnDemand education provider. CMODSkills is the foremost training provider with the most comprehensive Content Manager OnDemand education options for new and existing Content Manager OnDemand users.

All Content Manager OnDemand education is available for remote learning, providing all the benefits of live instruction without the hassle of travel time and costs – students can learn virtually from wherever an internet connection is available. The Instructor Led Online (ILO) courses equip Content Manager OnDemand users with the in-depth knowledge and techniques necessary for getting the maximum benefit from their Content Manager OnDemand systems and prepare students for the IBM Content Manager OnDemand System Administrator badge/certification exam. The ILO classes include live, interactive presentations and hands-on labs.

The class details, including the class curriculum, can be found at cmodskills.com.

Custom or private remote or onsite classes are also available – simply contact either your IBM Expert Lab Services team or CMODSkills@outlook.com for more information.

NEW: An in-person, classroom-based Instructor Led Training class will be held the week of May 6, 2024, from 8AM to 4:30 PM Eastern (includes lunch).

This is a great opportunity for those organizations wanting to train one or two students in a classroom setting. This session will include students from several companies. There are several openings available for this session and this session is guaranteed to be held.

The cost per student for this training session is $3,200 USD (an additional discount of 15% can be applied for referencing the newsletter). To register or for additional information, contact CMODSkills@outlook.com.

CMODSkills

Additional Information

Documentation

Content Manager OnDemand for Multiplatforms Documentation

Content Manager OnDemand for z/OS Documentation

Content Manager OnDemand for i Documentation

Content Navigator Documentation

Publication Libraries - PDF versions of the documentation

Multiplatforms	Version 10.5	
z/OS	Version 10.5	
IBM i	Version 7.4	Version 7.5

More Enterprise Content Management web sites

IBM Content Manager OnDemand Product Overview

Compatibility Matrix for the Content Manager OnDemand clients and servers

Hardware and software requirements for all versions of Content Manager OnDemand

IBM Software Support Lifecycle Policies (search for Content Manager OnDemand)

OnDemand User Group

The primary objective of the OnDemand User Group (ODUG) is to create an environment and network encouraging the exchange and development of information regarding Content Manager OnDemand and its associated products.

Copyright and trademark information

Tips – Cross Platform

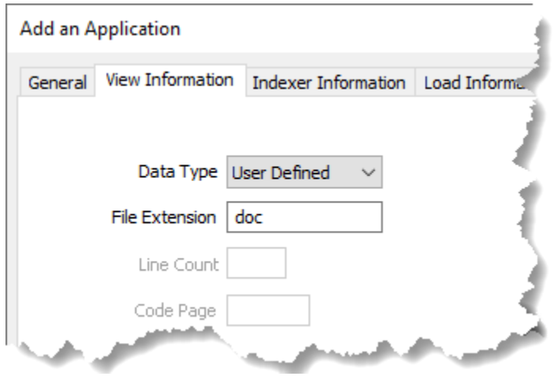
Default TLS (SSL) level changed at fix pack 10.5.0.7

At fix pack 10.5.0.7, the default TLS (SSL) level for both clients and the server changed from TLS V1.2 to TLS V1.3.

Configuring ODWEK so that the file extension value for User Defined data is mapped to a specific MIME type

The browser uses Multipurpose Internet Mail Extension (MIME) content type to format and display documents, to allow the correct viewer to open documents, or to start a user-defined program to open the documents. When dealing with User Defined (UD) data types, the Content Manager OnDemand Web Enablement Kit (ODWEK) can create an association between a file extension and a MIME type for documents that are retrieved from the Content Manager OnDemand server.

For this example, a Content Manager OnDemand application definition has a Data Type of 'User Defined' and a File Extension of 'doc'.



ODHit.getMimeType() for User Defined data will return *application/ondemand extension-field=ext* as the MIMEType. By default, an **ODHit.getViewMimeType()** will return *application/unknown* as the ViewMIMEType.

Default returned values:

```
MimeType: application/ondemand extension-field=doc
ViewMimeType: application/unknown
Extension: doc
```

ODHit.getMimeType() will always return the MIME type of the data as it is stored on the Content Manager OnDemand server. However, the View MIME type can be mapped to a different value for User Defined data. Use the Properties object that is passed to the ODConfig constructor to specify which View MIME type you would like ODWEK to return for your User Defined data type. This example tells ODWEK to map the extension 'doc' to the View MIME type 'application/msword'.

```
Properties od_props = new Properties();
          od_props.put("mime-doc", "application/msword");

ODConfig odConfig = new ODConfig(
                                  ...
                                  od_props);
```

Returned values with mapping added:

```
MimeType: application/ondemand extension-field=doc
ViewMimeType: application/msword
Extension: doc
```

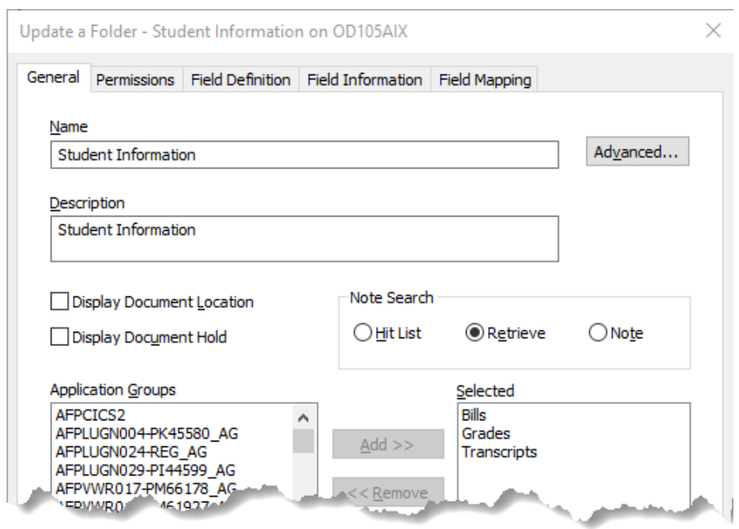
The format is mime-{extension}={desired MIME type to be returned}. This works for any User Defined data.

Limiting a folder search to one application group

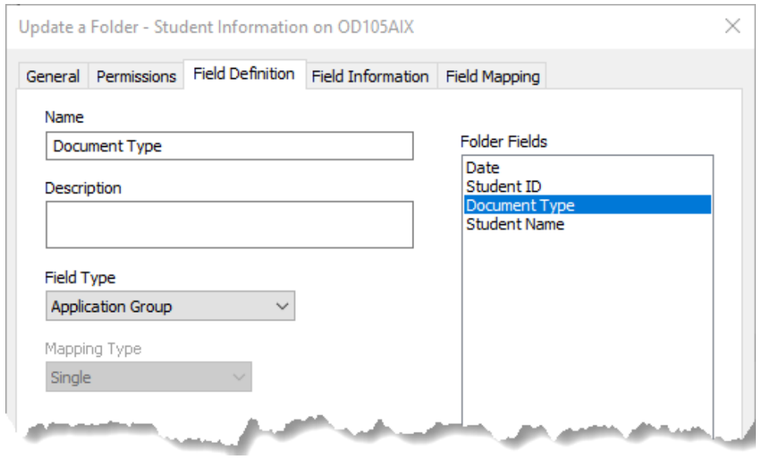
By default, the OnDemand Client queries all of the application groups defined to a folder. This design is one of the many great things about a Content Manager OnDemand folder – it takes care of querying all of the application groups for you and returns a composite of the results in the Document List.

However, if you already know which application group contains the result(s) that you want, the OnDemand Client can limit the application group that is searched. This is accomplished with a Field Type of 'Application Group' defined in the folder definition.

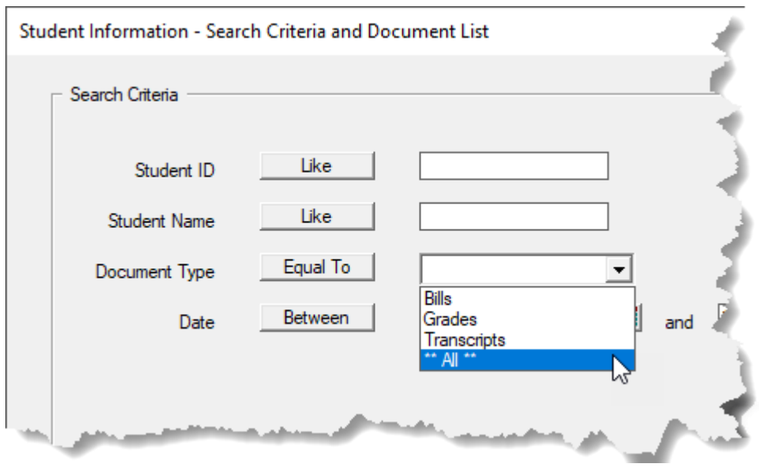
An Application Group field type creates a Search Criteria field that presents a drop-down menu of all of the application groups in the folder. For example, if the Content Manager OnDemand folder definition is as follows:



And a field is defined that has 'Application Group' as the 'Field Type' as is shown here:



The OnDemand Client will show:



Selecting a value from the 'Application Group' field type will limit the query to only that application group. Creating a folder field of this type does not require, nor even allow, field mapping to be added. It simply instructs the OnDemand Client to only query the selected application group.

Tips – Multiplatforms

ARSLOAD might fail with error message ARS1106E

The Content Manager OnDemand for Multiplatforms ARSLOAD service / daemon might fail with the error message: ARS1106E Connection cannot be established.

The Content Manager OnDemand ARSLOAD client and server communicate based on transactions. The client opens a TCP/IP socket to communicate with the server and closes that socket when the current transaction completes. When the ARSLOAD service is processing data, many sockets are opened and closed.

By default, when a Windows socket is closed by an application, Windows waits 240 seconds before closing it. When a Linux socket is closed by an application, Linux waits 60 seconds before closing it.

During this time, the port that the socket used is placed in the TIME_WAIT state and cannot be reused.

Windows also has a restriction on the highest port number that can be used (5000) when an application requests any available user port from the system.

Linux also has a restriction on the number of available ports that can be used (28232) when an application requests any available user port from the system.

Therefore, the Windows and Linux socket defaults might not accommodate heavy TCP/IP traffic without additional tuning.

Diagnosing the problem

The number of ports in a TIME_WAIT state can be obtained by running the command:

```
"netstat -a | grep TIME_WAIT"
```

The number of available ports on Windows can be viewed in the registry key:

```
HKEY_LOCAL_MACHINE\System\CurrectControlSet\services\Tcpip\Parameters\MaxUserPort
```

The time out value on Windows can be viewed in the registry key:

```
HKEY_LOCAL_MACHINE\System\CurrectControlSet\services\Tcpip\Parameters\TcpTimedWaitDelay
```

The number of available ports on Linux can be viewed by using the command:

```
sysctl net.ipv4.ip_local_port_range
```

The time out value on Linux can be viewed by using the command:

```
sysctl net.ipv4.tcp_fin_timeout
```

Resolving the problem

To alleviate this problem on Windows, it is recommended that you change the Windows default values for the following two parameters for systems that run the OnDemand Data Loading Service and communicate with Content Manager OnDemand servers.

Important: This solution includes changing the Windows registry with Windows registry editor (regedit). It is strongly recommended that you back up the Windows registry before you make any changes.

To reduce the timeout wait time for closed sockets, change the value of the following registry key from its default of 240 to a smaller number, such as 30. The valid range is 30-300 (decimal):

```
HKEY_LOCAL_MACHINE\System\CurrectControlSet\services\Tcpip\Parameters\TcpTimedWaitDelay
```

To increase the maximum port numbers available to applications, change the value of the following registry key from its default of 5000 (decimal) to a higher number, such as 65000. The valid range is 5000-65534 (decimal):

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\MaxUserPort
```

After making these changes, restart the Windows server for the changes to take effect.

For more information about these two parameters, you can search for TcpTimedWaitDelay and MaxUserPort on Microsoft Technet at:

http://technet.microsoft.com/

To alleviate this problem on Linux, its recommended that you change the Linux default values for the following two parameters for systems that run OnDemand Data Loading Server and communicate with Content Manager OnDemand servers.

Important: This solution requires adjusting Linux kernel parameters. You should make a note of the original values so you can reset them if necessary.

To reduce the timeout wait time for closed sockets, change the value of the kernel parameter from its default of 60 to a smaller number, such as 30.

```
sysctl -w net.ipv4.tcp_fin_timeout=30
```

To increase the maximum number of ports available to applications, change the value of the kernel parameter from its default of 28232 to a higher wider range, such as 1024 to 65535.

```
sysctl -w net.ipv4.ip_local_port_range=1024 65535
```

The values specified here are just examples. You might need to try different values based on your systems load.

This tip is adapted from support item 255289.

Tips – z/OS

Quick Hits

RACF Security Exits

There are two security exits for use with RACF.

- The ARSUSEC exit checks only passwords with RACF.
- The ARSUPERM exit checks all other permission activity with RACF.

Are you still assembling ARSUSECZ and implementing it by using the dynamic exit facility for password checking only? Do you want to simplify your configuration and improve performance by getting rid of the password dynamic exit facility?

As you plan your upgrades to Content Manager OnDemand, consider also rolling out the improved RACF password interface exit, ARSUSEC4.

The improved exit was introduced in server version 10.1 as a sample new function APAR in the SARSINST library. The exit is in the base code in server version 10.5.

The reason for the better efficiency is that the execution path of the security check has improved. Previously the execution path was:

```
Content Manager OnDemand -> ARSUSEC -> ARSUSECX -> dynamic exit facility -> ARSUSECZ
```

With the new 64-bit exit, extra code is no longer needed to translate 64-bit instructions into 31-bit instructions. The execution path now is simply:

```
Content Manager OnDemand -> ARSUSEC4
```

Just compile the new ARSUSEC4 exit into the exits directory as pointed in your ARS.CFG configuration file. That is all you need to do.

If you are using the ARSUPERM exit, you cannot eliminate the dynamic exit. The execution path remains:

```
ARSUPERM -> ARSUSECX -> dynamic exit facility -> ARSUSECZ.
```

For further information, see support item 1165276.

How can I tell whether ARSSOCKD is using memory above the two gigabyte bar?

You can check the output after ARSSOCKD has terminated normally.

There will be an IEF032I message with information about storage usage.

Of particular interest is the line that starts with “ATB” – Above The Bar.

Even on a lightly used test system, you can see virtual storage allocated above the bar:

```
ATB- REAL:            23888K   SLOTS:            23552K
     VIRT- ALLOC:     139M SHRD:       0M
```

Tips – IBM i

Important server upgrade considerations

There are a few things that you should do before and after upgrading your Content Manager OnDemand for i software to a new server version. A server version upgrade can occur when you apply server upgrade PTFs to upgrade from server version 10.5.0.6 to 10.5.0.7, for example, or during an operating system release upgrade, such as upgrading from version 7.4 to 7.5, which applies the server upgrade PTFs as part of the release upgrade.

During a server version upgrade, an inquiry message is sent to the QSYSOPR message queue that requires a response to confirm that you are aware of and intend to upgrade your Content Manager OnDemand server version. When you start your first Content Manager OnDemand instance (by using the Start TCP/IP Server (STRTCPSVR) command) after upgrading the server, you will receive message OND0156 in the QSYSOPR message queue that requires a response. The message text is: The Content Manager OnDemand server will be upgraded to server version 10.5.0.7. (C G)

If you have reviewed the Read This First document and/or the cover letters for the PTFs and are ready to upgrade to the new server version, reply G to Go. If you need to cancel or delay the upgrade, reply C to Cancel. The message will be issued one time, at the start of the first instance after you upgrade the server. If you reply C to Cancel, then the message will continue to be issued until you reply G to Go or until you remove the PTFs. If you reply C to cancel the upgrade, contact IBM support if you need assistance to determine if you are ready for the server upgrade, or to remove the PTFs from your system.

Before Upgrading

End all output queue and directory monitor jobs and Archived Storage Manager (ASM) jobs

To end a monitor job, issue the End Monitor (ENDMONOND) command for any monitors that are running. To end ASM, allow ASM to finish processing, or issue a controlled cancel on the ASM job if you cannot wait for it to finish.

If you attempt to start an instance after applying server upgrade PTFs without having ended your monitor jobs and ASM jobs, the server might fail to start and you might see error message ARS4118E in the server job log. If this occurs, end any monitor and ASM jobs that are active and then start the instance server again.

Remove any non-IBM objects in the instance library that have a name that begins with 'ARS' and are not owned by the instance user profile

Objects beginning with the characters 'ARS' that are found in the instance library and are not owned by the instance user profile will cause the starting of the server to fail after server upgrade PTFs are applied. For example, you might use the default instance named QUSROND. If QUSROND is your instance name, then the instance library and instance user profile names are also QUSROND. You might have placed a user exit program named ARSEXIT in the QUSROND instance library. The exit program might be owned by MYUSER user profile instead of the QUSROND instance user profile if you were signed on as MYUSER when you created it. In this example, the QUSROND instance server will fail to start after applying server upgrade PTFs.

To correct the problem, look in the instance library for object names beginning with 'ARS' that are not owned by the instance user profile. If you find an object beginning with 'ARS' that is not owned by the instance user profile, you must do one of the following:

- move the object to a different library
- delete it if it is no longer needed
- change the owner of the object to be the instance user profile

To check the owner of objects in the instance library, run the following command from QSHELL:

```
ls -dl /qsys.lib/qusrond.lib/ARS*
```

If you leave non-IBM objects in the instance library that are not owned by the instance user profile and you attempt to start an instance after applying server upgrade PTFs, the server might fail to start and you might see error message ARS4118E in the server job log. If this occurs, select one of the corrective actions listed and then start the instance server again.

Authorize the instance user profile(s) to the CHGAUT and CHGOWN commands

Each of your instance user profiles, which are named the same as the instance name, must have authority to run the Change Authority (CHGAUT) and Change Owner (CHGOWN) commands. For most customers, the instance user profiles will have the required authority, but this might not be true if your system's authorities have been modified.

To confirm the correct authorities, issue the Display Object Authority (DSPOBJAUT) command as shown below for both the CHGAUT and CHGOWN command objects:

```
DSPOBJAUT OBJ(CHGxxx) OBJTYPE(*CMD)
```

where CHGxxx is either CHGAUT or CHGOWN. *PUBLIC or the instance user profiles must have at least *USE authority.

If you need to change the authority, issue the Grant Object Authority (GRTOBJAUT) command as shown below for either the CHGAUT or CHGOWN command objects:

```
GRTOBJAUT OBJ(CHGxxx) OBJTYPE(*CMD) USER(myinstance)
   AUT(*USE)
```

where CHGxxx is either CHGAUT or CHGOWN, and myinstance is the name of the instance user profile that requires authority to the commands.

If the instance user profiles do not have the required authorities and you attempt to start an instance after applying server upgrade PTFs, the server might fail to start. If this occurs, grant the required authorities and then start the instance server.

After Upgrading

Start and test one instance before starting others (if you have multiple instances defined)

After the first instance starts, test both storing and viewing of data to ensure that no problems exist. If no problems exist, start the remaining instances as needed. If you have a test instance and a production instance defined, you might consider working with the test instance first. This approach will greatly reduce the time it takes to resolve any issues that might arise that are unique to your environment.

This tip adapted from support item 434081.

IBM Navigator for i enhancements

The Content Manager OnDemand for i component of IBM Navigator for i contains the following enhancements in the 1st quarter update:

- Flyover text on Display panels
- Redesigned main menu

The required PTFs for the 1st quarter Navigator update are:

Version	Content Manager OnDemand PTF	IBM i PTF
V7.5	SI86073	SI85641
V7.4	SI86075	SI85640

See support item 6486565 for more information on IBM Navigator for i.