

CICS Explorer: What's new, and what's even newer!

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IBM UK

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Session **GF**



Agenda

- CICS Explorer: What is it?
- What's New in CICS Explorer 5.4 CD
- What's Even Newer: CICS TS 5.5

Imagine a New Graduate....

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CICPY00J MAS CICS SYSTEM 20:55:35

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INQUIRE PROGRAM (DFH*)
STATUS: RESULTS - OVERTYPE TO MOD
Prog(DFH$WB1A) Leng(0000000000) A
Resc(0000) Use(0000000000) Any
Prog(DFHACP ) Leng(0000006848) A
Resc(0001) Use(0000000001) Any
Prog(DFHADWB1) Leng(0000000000) L
Resc(0000) Use(0000000000) Any
Prog(DFHAMP ) Leng(0000229336) A
Resc(0000) Use(0000000126) Any
Prog(DFHAPATT) Leng(0000001128) A
Resc(0003) Use(0000000291) Any
Prog(DFHBMSX ) Leng(0000000800) A
Resc(0000) Use(0000000001) Any
Prog(DFHBRCV ) Leng(0000000000) A
Resc(0000) Use(0000000000) Any
Prog(DFHBRMP ) Leng(0000000000) Ass Pro Ena Pri
Resc(0000) Use(0000000000) Any Cex Ful Qua Cic
+ Prog(DFHCCNV ) Leng(0001913792) Ass Pro Ena Pri
Resc(0000) Use(0000000002) Any Cex Ful Thr Cic Nat

RESPONSE: NORMAL
SYSID=ELCM APPLID=IYCWELCM
TIME: 20.47.29 DATE: 04/10/18
PF 1 HELP 3 END 5 VAR 7 SBH 8 SFH 9 MSG 10 SB 11 SF

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Menu Utilities Compilers Options Status Help
-----
ISPF Primary Option Menu for MVB0

Option ==>

STANDARD OPTIONS                                HURSLEY EXTENSIONS
0 Settings Terminal & user parms DB Database DB2 Managers
1 View Display source data DM Data Mgmt Data Management
2 Edit Create/change source U Utils Utilities
3 Utilities Perform utility funcs SP SysProg System Programming
4 Foreground Interactive processing I IPCS Dump Processing
5 Batch Submit job processing O OMVS UNIX System Services
6 Command Enter TSO/wkstn cmds R RACF Data Security Dialog
7 Dialog Test Perform dialog testing S SDSF Job/Output Display
8 LM Facility Library admin funcs LU Utils Local Utilities
9 IBM Products Program dev products X EXIT Exit from ISPF
10 SCLM SW Config Lib Manager
11 Workplace ISPF Workplace
12 z/OS System z/OS sysprog appls
13 z/OS User z/OS user appls

For information on MVS Support Services visit:
http://w3.hursley.ibm.com/zos

User ID . : MARHOLL Time . . : 14:07 Terminal . : 3278
Screen . : 1 Language . : ENGLISH Appl ID . : ISR
TSO logon : ISPF TSO prefix: MARHOLL System ID : MVB0
MVS acct. : 934620 Release . : ISPF 6.3

```

21st Century System Management Tool

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICSplex Explor CICSplex Repos

Server: EZCM

- ▼ CICSXCD (7/7)
 - Workload Management
 - SHOWJOE EZCM (ACTIVE)
 - BEN
 - ▼ Systems
 - IYCWEZG1 (IYCWEZG1)
 - IYCWEZH1 (IYCWEZH1)
 - IYCWEZI1 (IYCWEZI1)
 - IYCWEZJ1 (IYCWEZJ1)
 - IYCWEZW1 (IYCWEZW1)
 - IYCWEZW2 (IYCWEZW2)
 - IYCWEZZ1 (IYCWEZZ1)
 - System Groups
 - DUMMY907 (0/0)

CNX0211I Context: IYCWEZG1. Resource: LOCTRAN. 201 records collected at 27 Feb 2018, 13:21:33

| Region | Name | Status | Availability | Use Count | Program | Priority | Transaction | C | F |
|----------|------|-----------|--------------|-----------|----------|----------|-------------|---|---|
| IYCWEZG1 | CADP | ✓ ENABLED | N/A | 0 | DFHDPLU | 1 | DFHTCL00 | F | |
| IYCWEZG1 | CATA | ✓ ENABLED | N/A | 0 | DFHZATA | 255 | DFHTCL00 | F | |
| IYCWEZG1 | CATD | ✓ ENABLED | N/A | 0 | DFHZATD | 255 | DFHTCL00 | F | |
| IYCWEZG1 | CATR | ✓ ENABLED | N/A | 0 | DFHZATR | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CBAM | ✓ ENABLED | N/A | 0 | DFHECBAM | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CCIN | ✓ ENABLED | N/A | 0 | DFHZCN1 | 254 | DFHCOMCL | F | |
| IYCWEZG1 | CCRL | ✓ ENABLED | N/A | 0 | DFHSOCRL | 1 | DFHTCL00 | F | |
| IYCWEZG1 | CDBC | ✓ ENABLED | N/A | 0 | DFHDBME | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBD | ✓ ENABLED | N/A | 0 | DFHDBDI | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBF | ✓ ENABLED | N/A | 0 | DFHD2CM3 | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBI | ✓ ENABLED | N/A | 0 | DFHDBIQ | 1 | DFHTCL00 | F | |
| IYCWEZG1 | CDBM | ✓ ENABLED | N/A | 0 | DFHDBMP | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBN | ✓ ENABLED | N/A | 0 | DFHDBCON | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBO | ✓ ENABLED | N/A | 0 | DFHDBCT | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBQ | ✓ ENABLED | N/A | 0 | DFHD2CM2 | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDBT | ✓ ENABLED | N/A | 0 | DFHDBDSC | 255 | DFHTCL00 | N | |
| IYCWEZG1 | CDFS | ✓ ENABLED | N/A | 0 | DFHDFST | 1 | DFHTCL00 | N | |
| IYCWEZG1 | CDTS | ✓ ENABLED | N/A | 0 | DFHZATS | 255 | DFHTCL00 | F | |

Properties Error Log Host Connections

Connections

type filter text Add... Edit... Remove

- ▼ CICS System Management (1) (cicsexcd:28)
 - CICSplex SM Data Interface
 - ▼ CMCI (1)
 - ▼ z/OS
 - z/OS FTP

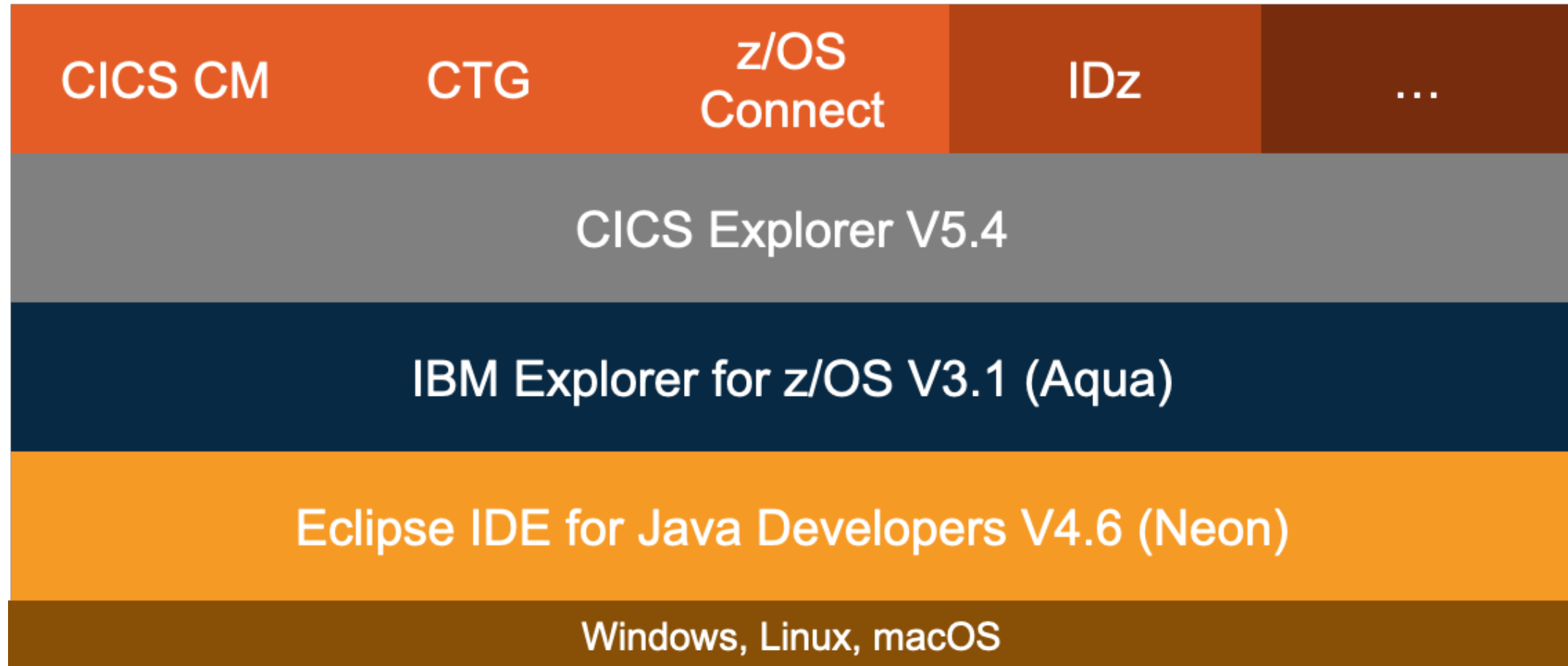
Credentials

junit1 [junit1] Add... Edit... Remove

ledina [ledina] Add... Edit... Remove

cicsexcd:28941

Architecture



What Does CICS Explorer do?

- Embeds z/OS Explorer
 - Work with data sets, zFS files and z/OS jobs
- View and manage CICS resources - CEMT function
- Create and modify CICS definitions (CEDA function and BAS/WUI function)
- The only guided way to create bundles and Event Processing artifacts
- The best way to write Java programs to run in CICS or Java EE applications for IBM WebSphere Liberty Profile
- Manage CICSplex SM and view information about your CICS environment
- ... and more!

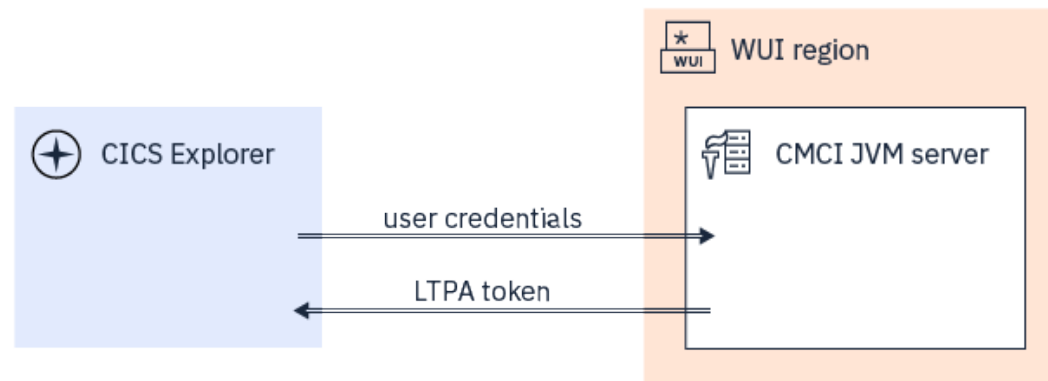
Get Your Hands Dirty

- CICS Explorer is backwards compatible with older versions of CICS
 - Always use the latest!
- IBM Explorer for z/OS Aqua website - <https://developer.ibm.com/mainframe/products/downloads/eclipse-tools/>
 - Download CICS Explorer stand-alone OR
 - Download a IM for IBM Explorer for z/OS and add CICS Explorer to it
- Open Beta website: <https://www.ibm.com/it-infrastructure/z/cics/trials>

What's New in CICS Explorer 5.4 CD

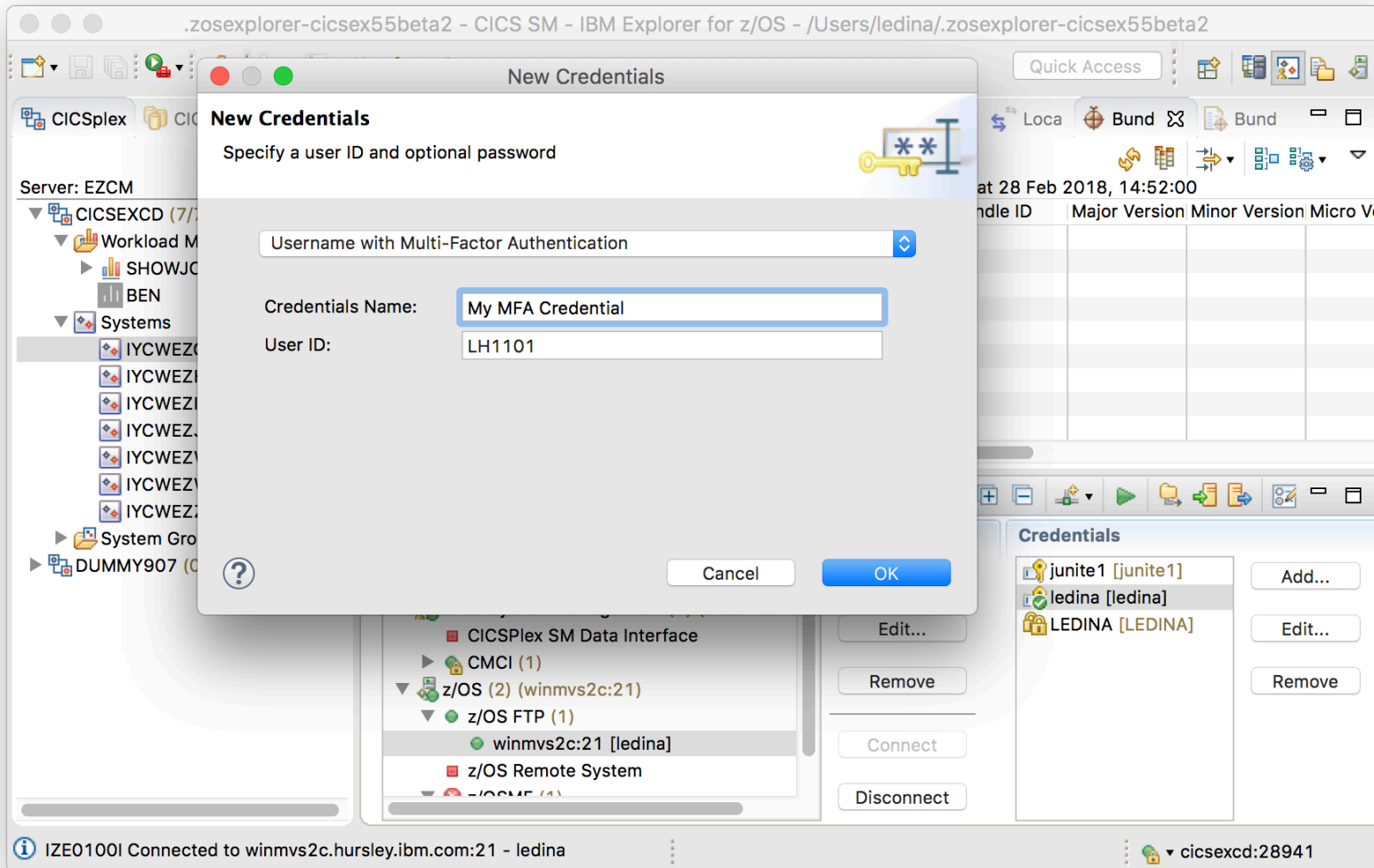
Security: Multi-Factor Authentication Support

- Multi-Factor Authentication for z/OS or equivalent product configured with RACF
- CICS Explorer Version 5.4.0.4 or later
- CICS TS V5.4 with APAR PI87691 or later: WUI region and CMAS at least
- WUI configured to enable the use of CMCI and accept MFA tokens



Security: Multi-Factor Authentication Support

- New MFA credential type
- Password not stored
- No automatic reconnect
- CMCI or z/OS Remote Systems



Security: Smart Card Support

The screenshot shows the 'Preferences' window with the 'Security and certificate management' section selected. The left sidebar lists various configuration categories, with 'Certificate management' and its sub-item 'CICS View Configurations' highlighted. The main panel displays the 'Smart card details' section, which is enclosed in a red rectangular box. This section includes a descriptive text block about smart cards, two radio button options ('Use Windows cryptography services' and 'Use PKCS11 driver'), and input fields for 'Driver path' and 'PIN'. Below this, the 'Advanced socket configuration' section is visible, featuring a text block and a 'Secure socket protocol' dropdown menu set to '- default -'. The window has standard macOS window controls (red, yellow, green buttons) at the top left and 'Cancel' and 'OK' buttons at the bottom right.

Preferences

type filter text

- General
- Ant
- Client Certificates
- Database Retrieval Parameters
- Explorer
- Certificate management**
 - CICS View Configurations
- Help
- Install/Update
- Java
- JCL
- Plug-in Development
- Remote Systems
- Run/Debug
- Team
- Tracing
- z/OS Solutions

Security and certificate management

File name

Pass phrase

Smart card details

A smart card is a hardware device that requires a software driver. On Windows, the built-in cryptography services provide stored in the Windows cryptographical store. On platforms other than Windows you must configure a specific PKCS11 driver.

☐ Use Windows cryptography services

☒ Use PKCS11 driver

Driver path

PIN

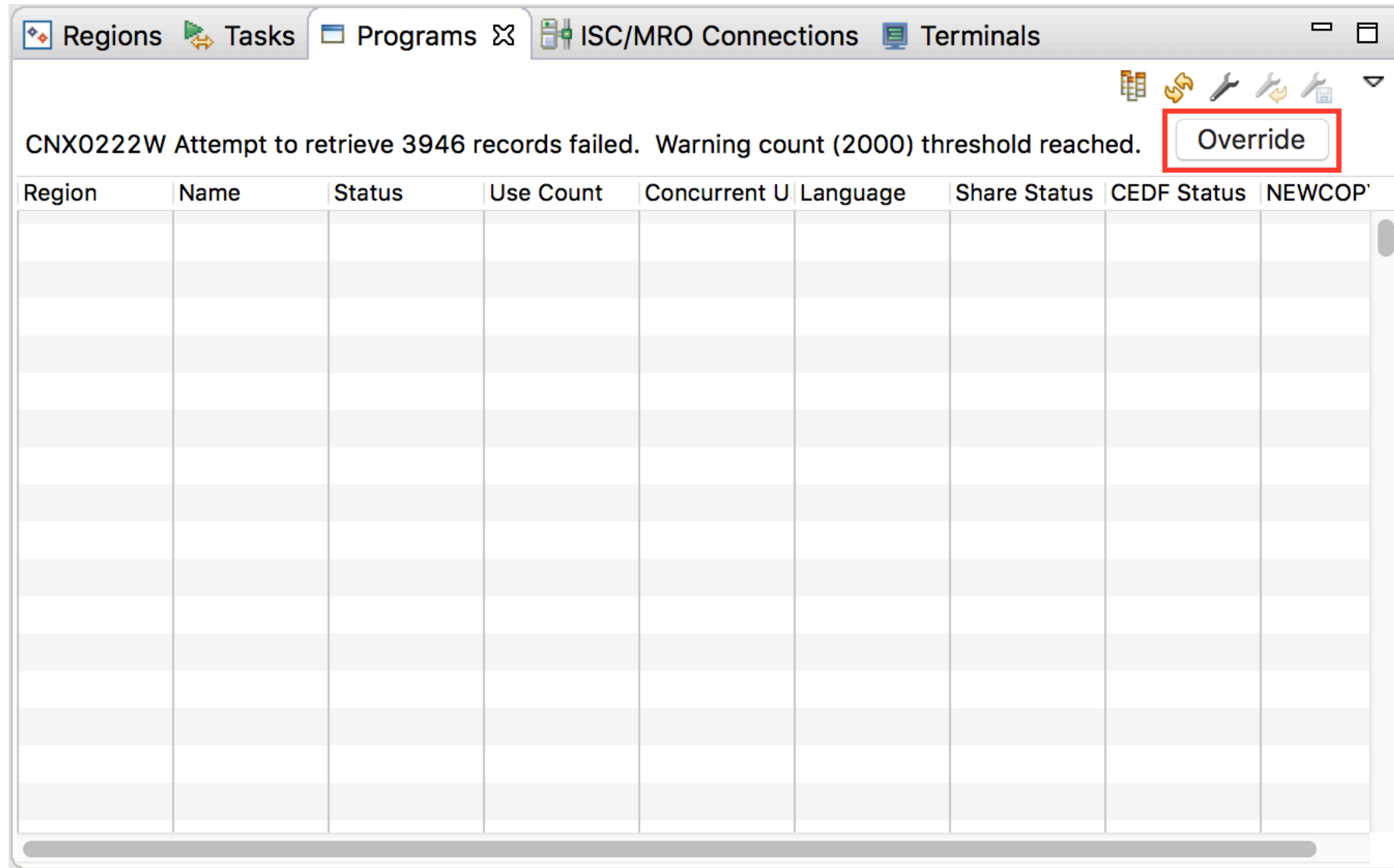
Advanced socket configuration

This section allows users to customize the protocol and details specific for their organisation. In most circumstances the default values are sufficient.

Secure socket protocol - default -

Cancel OK

Overriding Warning Count



Overriding Warning Count

Regions Tasks Programs ISC/MRO Connections Terminals

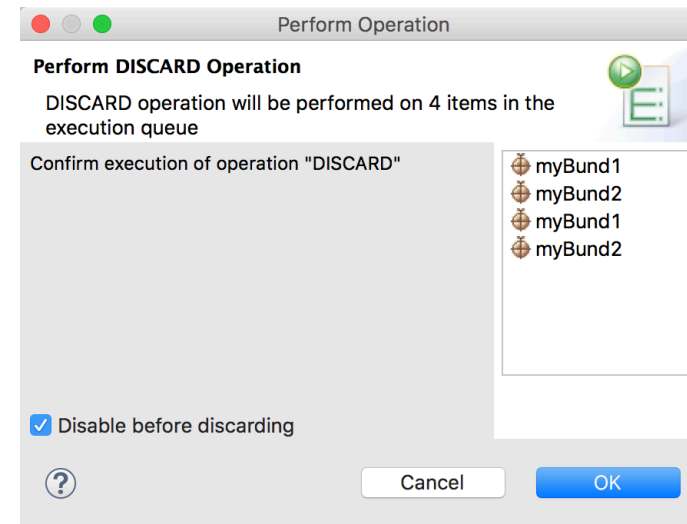
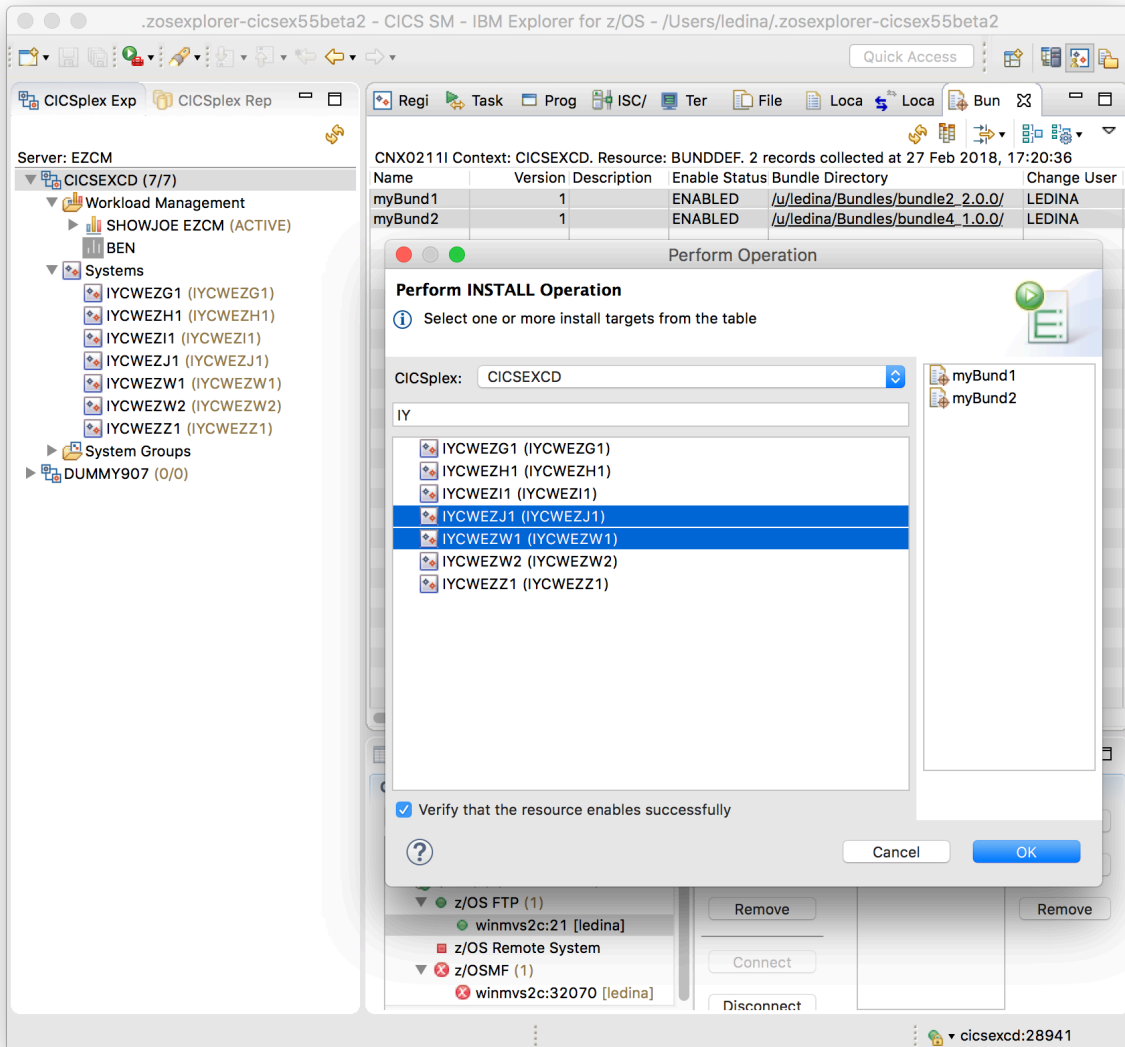
Regions

CNX0211I Context: CICSEX54. Resource: **PROGRAM. 3946 records collected** at 22 Jun 2017, 15:41:41

| Region | Name | Status | Use Count | Concurrent U | Language | Share Status | CEDF Status | NEWCOP' |
|----------|----------|-----------|-----------|--------------|-----------|--------------|-------------|---------|
| IYCWEKF1 | CELCLEM | ✓ ENABLED | 0 | 0 | NOTAPPLIC | PRIVATE | NOTAPPLIC | NOTREC |
| IYCWEKF1 | CELCLRH | ✓ ENABLED | 0 | 0 | NOTAPPLIC | PRIVATE | NOTAPPLIC | NOTREC |
| IYCWEKF1 | CEL4RTO | ✓ ENABLED | 0 | 0 | NOTDEFINE | PRIVATE | CEDF | NOTREC |
| IYCWEKF1 | CJC9BA01 | ✓ ENABLED | 1 | 1 | ASSEMBLEF | SHARED | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9CM01 | ✓ ENABLED | 1 | 1 | ASSEMBLEF | SHARED | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9DBUG | ✓ ENABLED | 0 | 0 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9MN01 | ✓ ENABLED | 1 | 1 | ASSEMBLEF | SHARED | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NA01 | ✓ ENABLED | 1 | 1 | ASSEMBLEF | SHARED | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NLDC | ✓ ENABLED | 1 | 1 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NLDR | ✓ ENABLED | 1 | 1 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NLID | ✓ ENABLED | 1 | 1 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NLME | ✓ ENABLED | 1 | 1 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NLSO | ✓ ENABLED | 1 | 1 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NMST | ✓ ENABLED | 0 | 0 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NMTE | ✓ ENABLED | 0 | 0 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NPS2 | ✓ ENABLED | 0 | 0 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9NXSM | ✓ ENABLED | 1 | 0 | ASSEMBLEF | PRIVATE | NOCEDF | NOTREC |
| IYCWEKF1 | CJC9PS01 | ✓ ENABLED | 1 | 1 | ASSEMBLEF | SHARED | NOCEDF | NOTREC |

Bundle Life-Cycle Improvements

- Install/Enable and Disable/Discard
- Filtering on install
- Multiple selection
- Hyperlinks



JVM Server and Associated CICS Tasks

Improvements

- Remove disruptive tasks from the JVM
- Remove associated threads and tasks in a more orderly sequence when disabling the JVMSERVER.

Regions Tasks ISC/MRO Terminals Local Files Local Tran

CNX0211I Context: CICSEX54. Resource: TASK. 18 records collected at 12 Jun 2017, 11:39:13

| Region | Task ID | Transaction ID | Run Status | User ID | Principal Facility | LU Name | Pri |
|----------|---------|----------------|------------|---------|--------------------|---------|-----|
| IYCWEKF1 | 0000027 | CONL | ▶ RUNNING | EXPAUTO | | | 25 |
| IYCWEKF1 | 0000042 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKF1 | 0000043 | COIE | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKG1 | 0000043 | COIO | ▶ RUNNING | EXPAUTO | | | 25 |
| IYCWEKG1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKG1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKH1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKH1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKH1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKH1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKH1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKI1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKI1 | 0000045 | COIE | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKJ1 | 0000028 | CONL | ▶ RUNNING | EXPAUTO | | | 25 |
| IYCWEKJ1 | 0000043 | COIO | ▯▯ SUSPEND | EXPAUTO | | | 25 |
| IYCWEKJ1 | 0000046 | COIE | ▯▯ SUSPEND | EXPAUTO | | | 25 |

Open

Search ▶

Purge ▶

Copy ⌘C

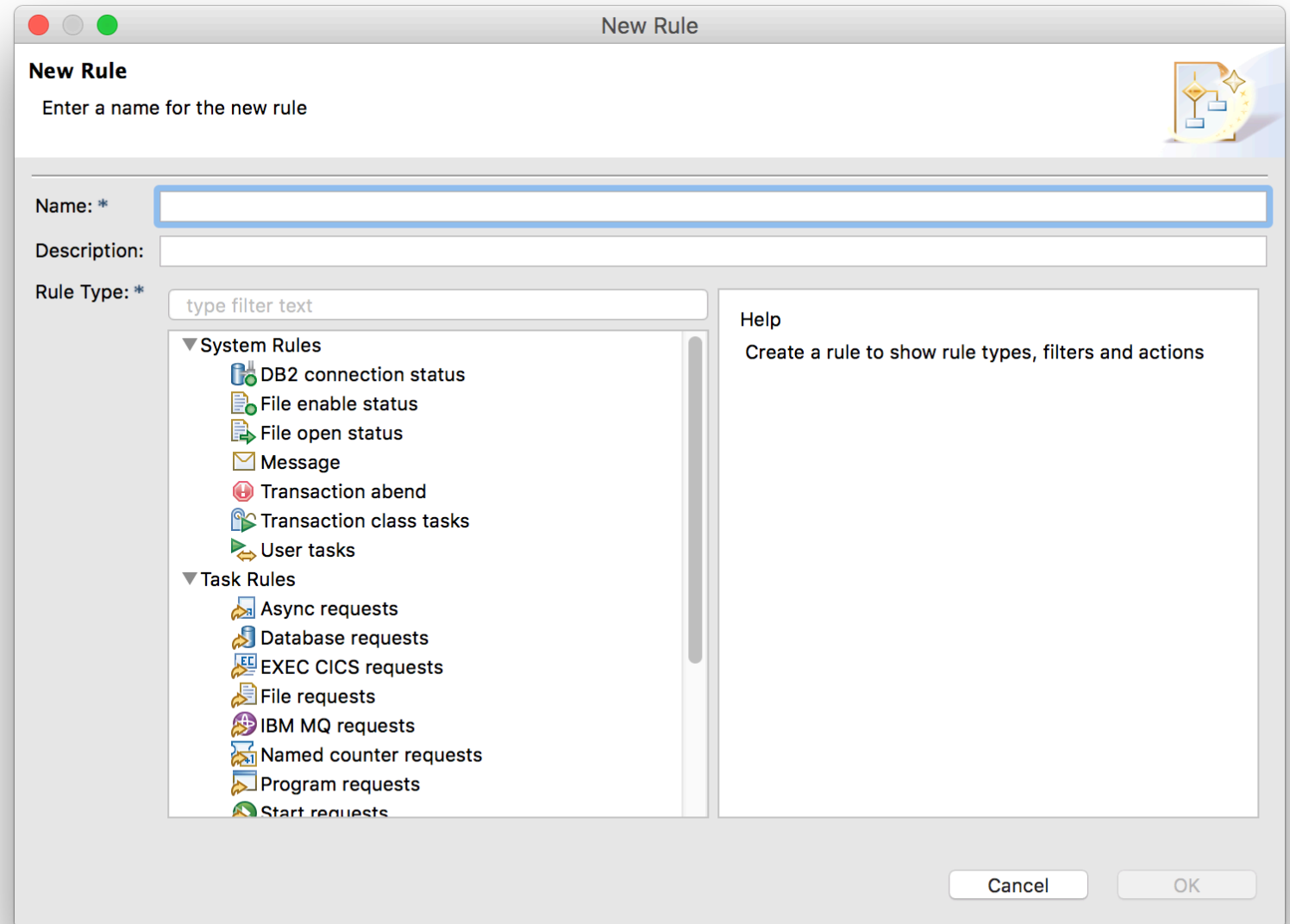
Purge

Force Purge

Kill

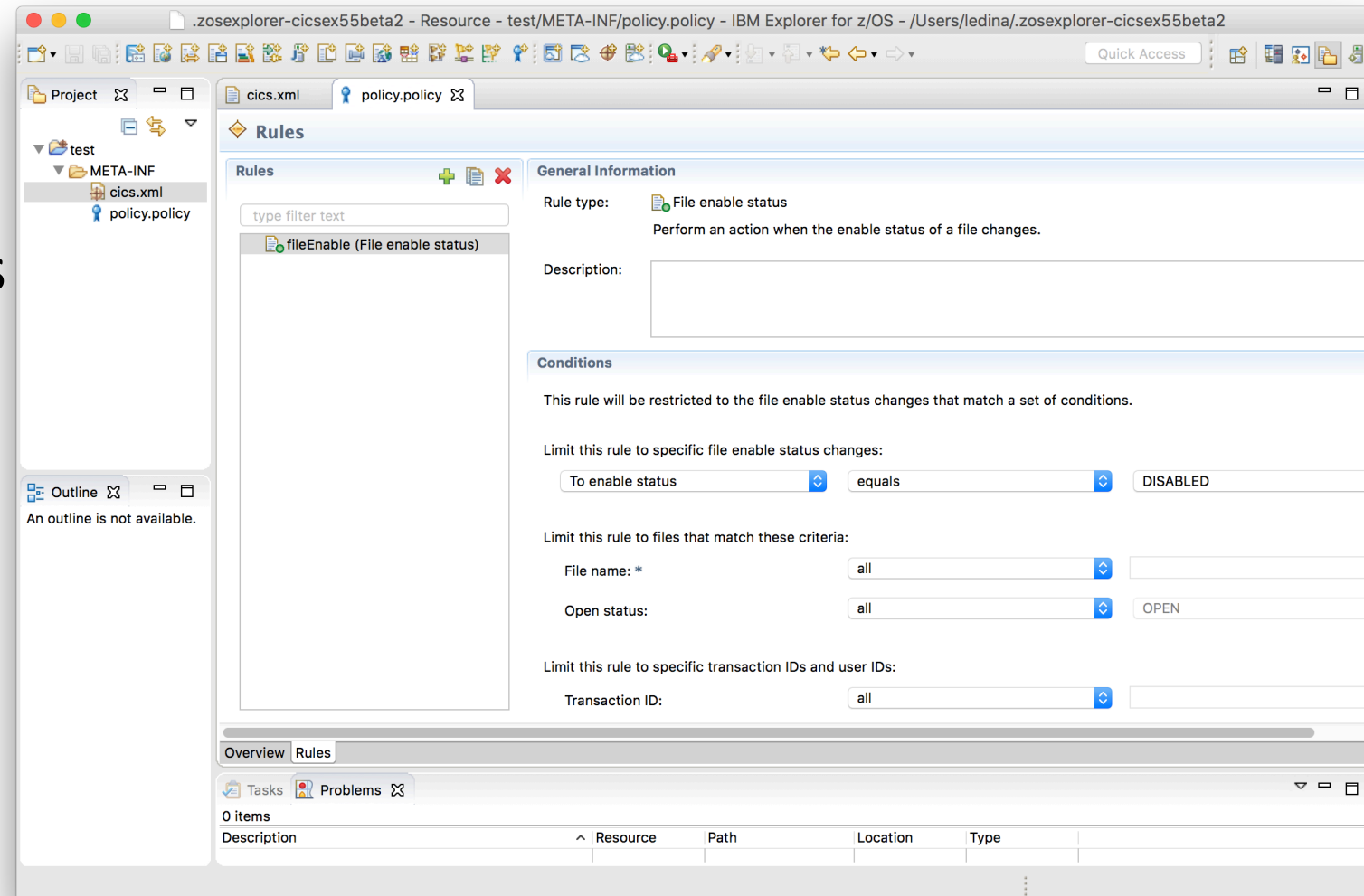
Policy-Based Management: System Rules

- Automated control over critical system resources
- Same capabilities as system events
- Expanded to support a new set of system-based rules

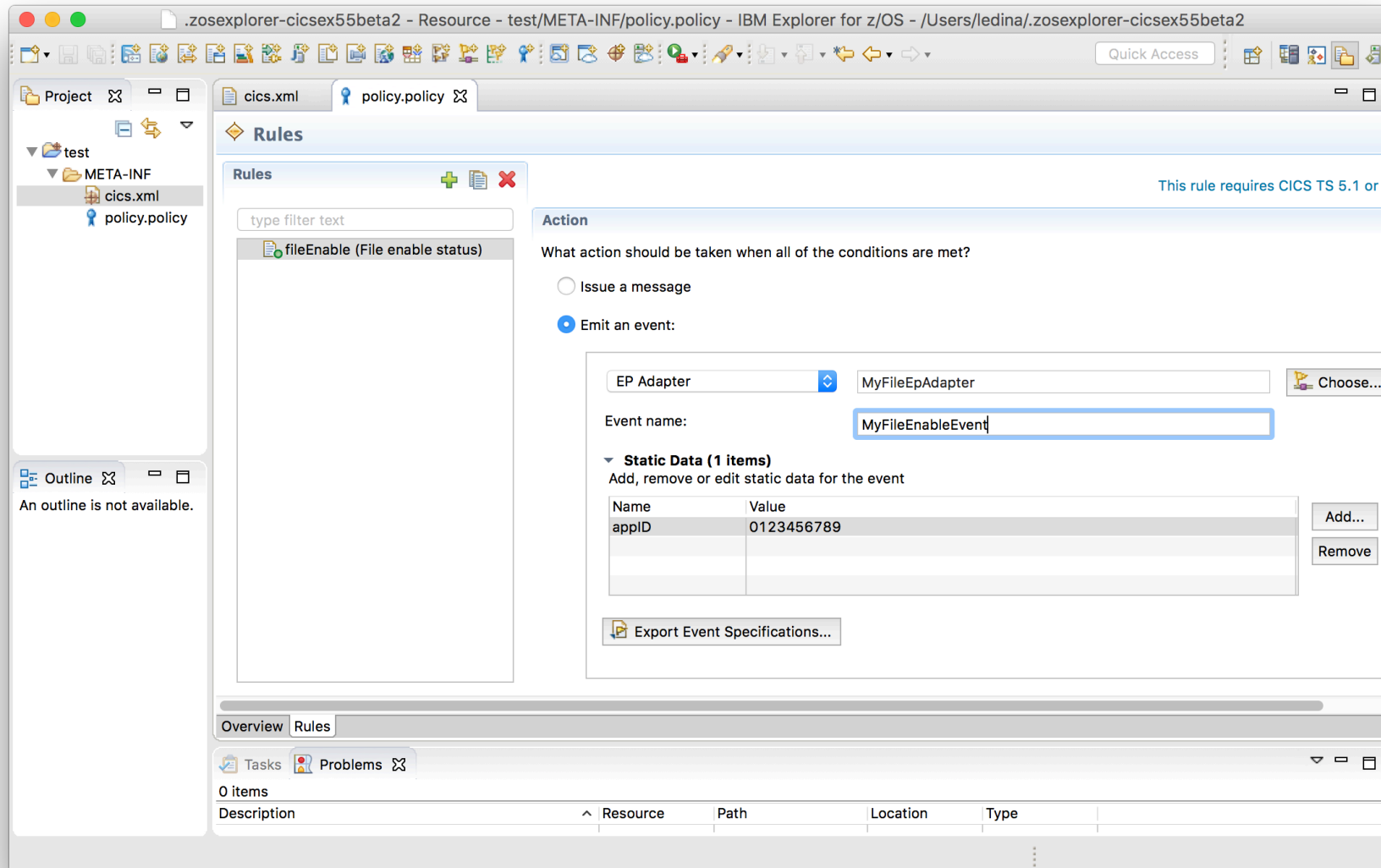


Policy-Based Management: System Rules

- New Policy Rule Editor
 - Multiple rules in a policy
 - User-defined abend codes
-
- Each rule specifies:
 - Condition
 - Action



Policy-Based Management: Static Data



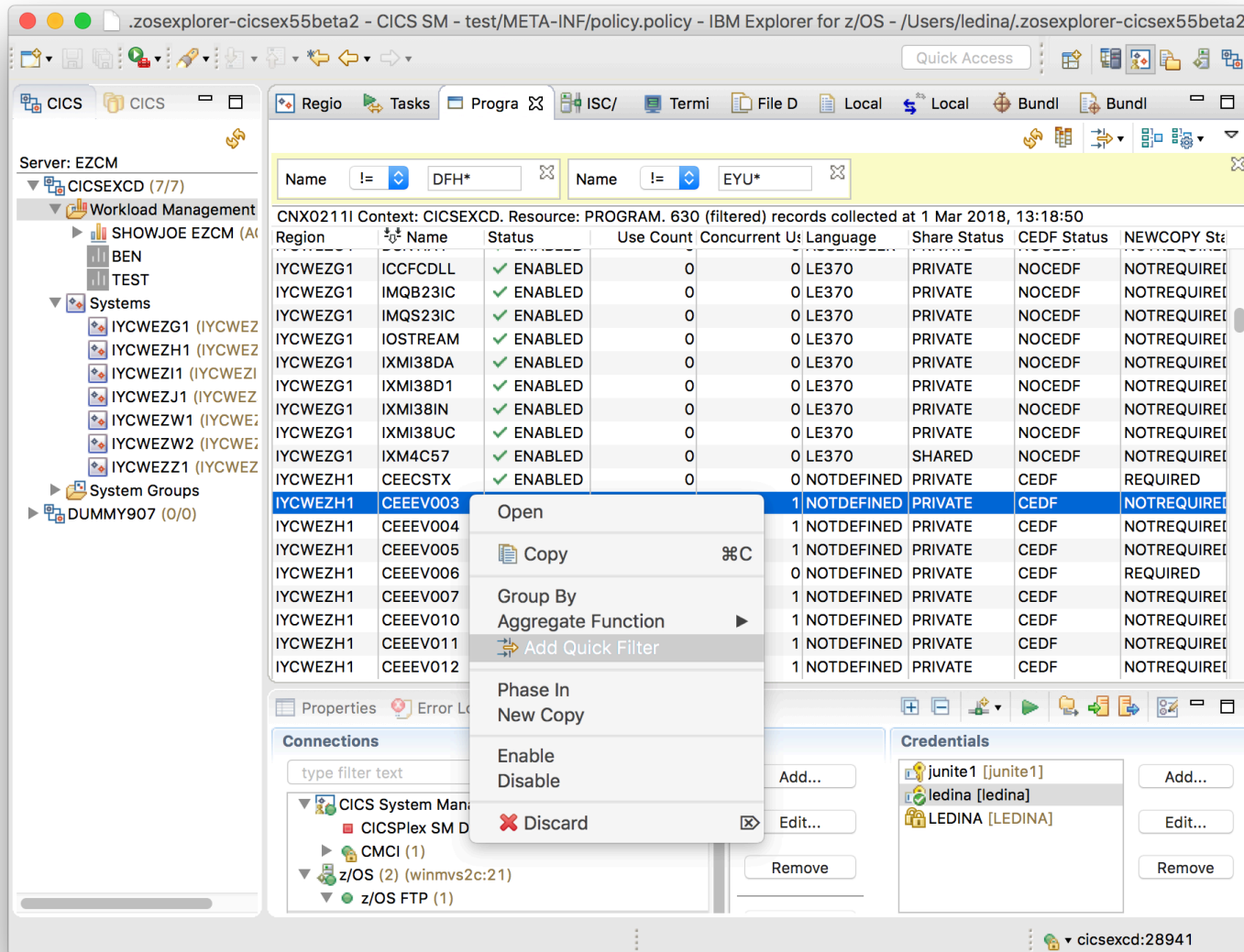
- Action section of a policy
- A way of passing information to the event consumer

Demo

Scenario 1: File Enable Policy

- Stan, the system programmer, has identified certain files that are critical to their system.
- He would like to be notified if they ever get DISABLED so he can respond as quickly as possible to fix the issue.

Quick Filters



Server: EZCM

Workload Management

Systems

System Groups

DUMMY907 (0/0)

Regio Tasks Progra ISC/ Termi File D Local Bundl Bundl

Quick Access

Name != DFH* Name != EYU*

CNX0211I Context: CICSEXCD. Resource: PROGRAM. 630 (filtered) records collected at 1 Mar 2018, 13:18:50

| Region | Name | Status | Use Count | Concurrent U | Language | Share Status | CEDF Status | NEWCOPY Sta |
|----------|----------|---------|-----------|--------------|------------|--------------|-------------|-------------|
| IYCWEZG1 | ICCFCDLL | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IMQB23IC | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IMQS23IC | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IOSTREAM | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IXMI38DA | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IXMI38D1 | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IXMI38IN | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IXMI38UC | ENABLED | 0 | 0 | LE370 | PRIVATE | NOCEDF | NOTREQUIRE |
| IYCWEZG1 | IXM4C57 | ENABLED | 0 | 0 | LE370 | SHARED | NOCEDF | NOTREQUIRE |
| IYCWEZH1 | CEECSTX | ENABLED | 0 | 0 | NOTDEFINED | PRIVATE | CEDF | REQUIRED |
| IYCWEZH1 | CEEEV003 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |
| IYCWEZH1 | CEEEV004 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |
| IYCWEZH1 | CEEEV005 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |
| IYCWEZH1 | CEEEV006 | | 0 | 0 | NOTDEFINED | PRIVATE | CEDF | REQUIRED |
| IYCWEZH1 | CEEEV007 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |
| IYCWEZH1 | CEEEV010 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |
| IYCWEZH1 | CEEEV011 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |
| IYCWEZH1 | CEEEV012 | | 1 | 1 | NOTDEFINED | PRIVATE | CEDF | NOTREQUIRE |

Properties Error L

Connections

type filter text

CICS System Man

CICSplex SM D

CMCI (1)

z/OS (2) (winmvs2c:21)

z/OS FTP (1)

Credentials

junite1 [junite1]

ledina [ledina]

LEDINA [LEDINA]

Add...

Edit...

Remove

Open

Copy

Group By

Aggregate Function

Add Quick Filter

Phase In

New Copy

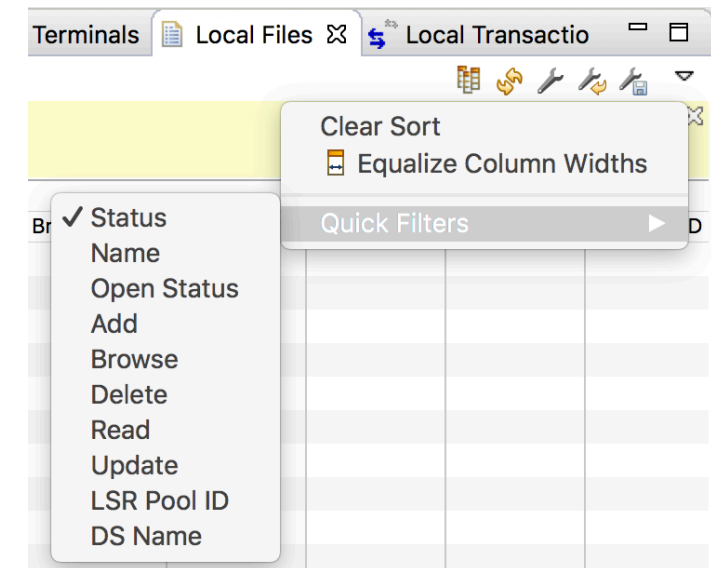
Enable

Disable

Discard

cicsexcd:28941

- Drill down to particular data
- Multiple per attribute
- Choice of operators
- Easy to remove

Terminals Local Files Local Transaction

Clear Sort

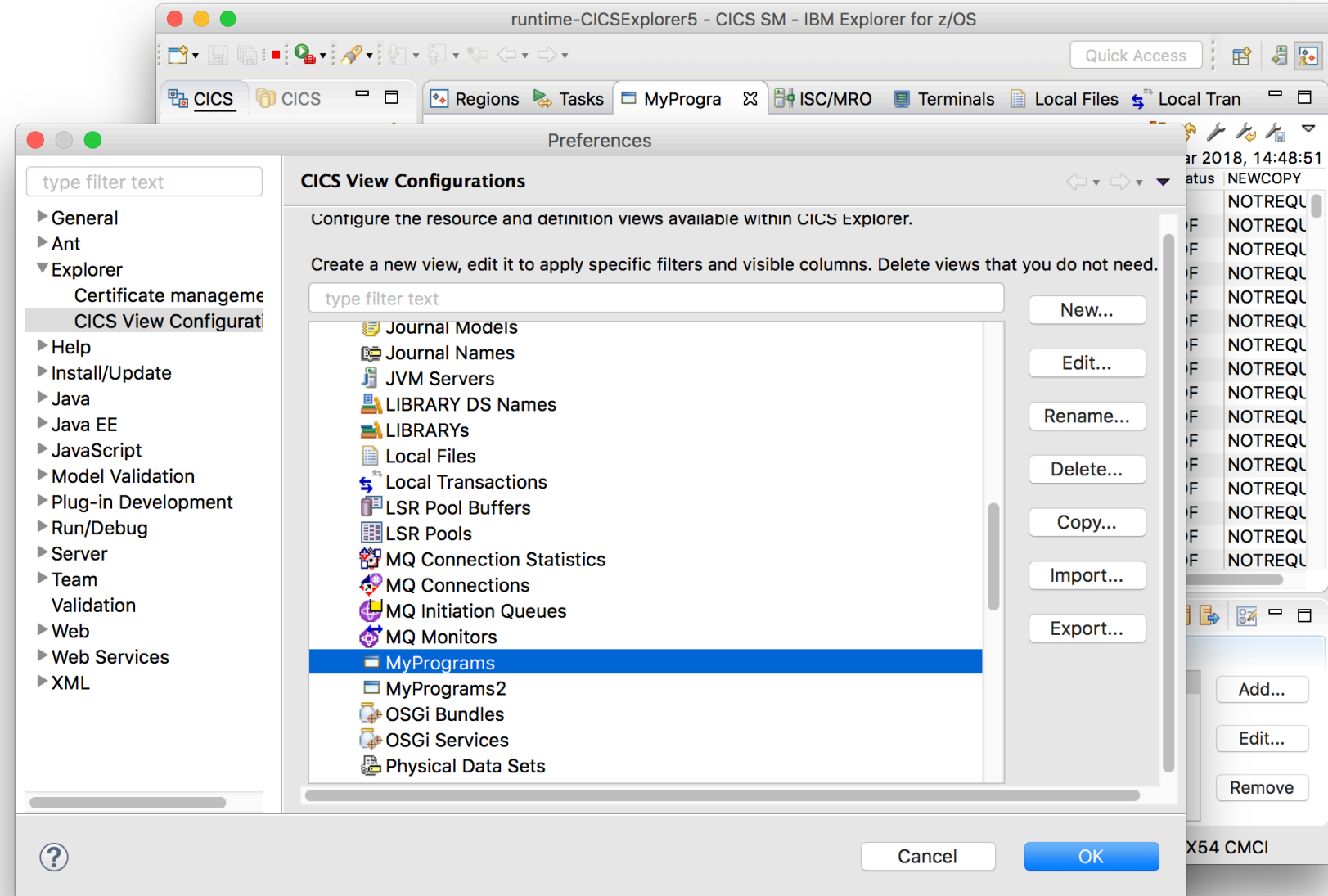
Equalize Column Widths

Quick Filters

- ✓ Status
- Name
- Open Status
- Add
- Browse
- Delete
- Read
- Update
- LSR Pool ID
- DS Name

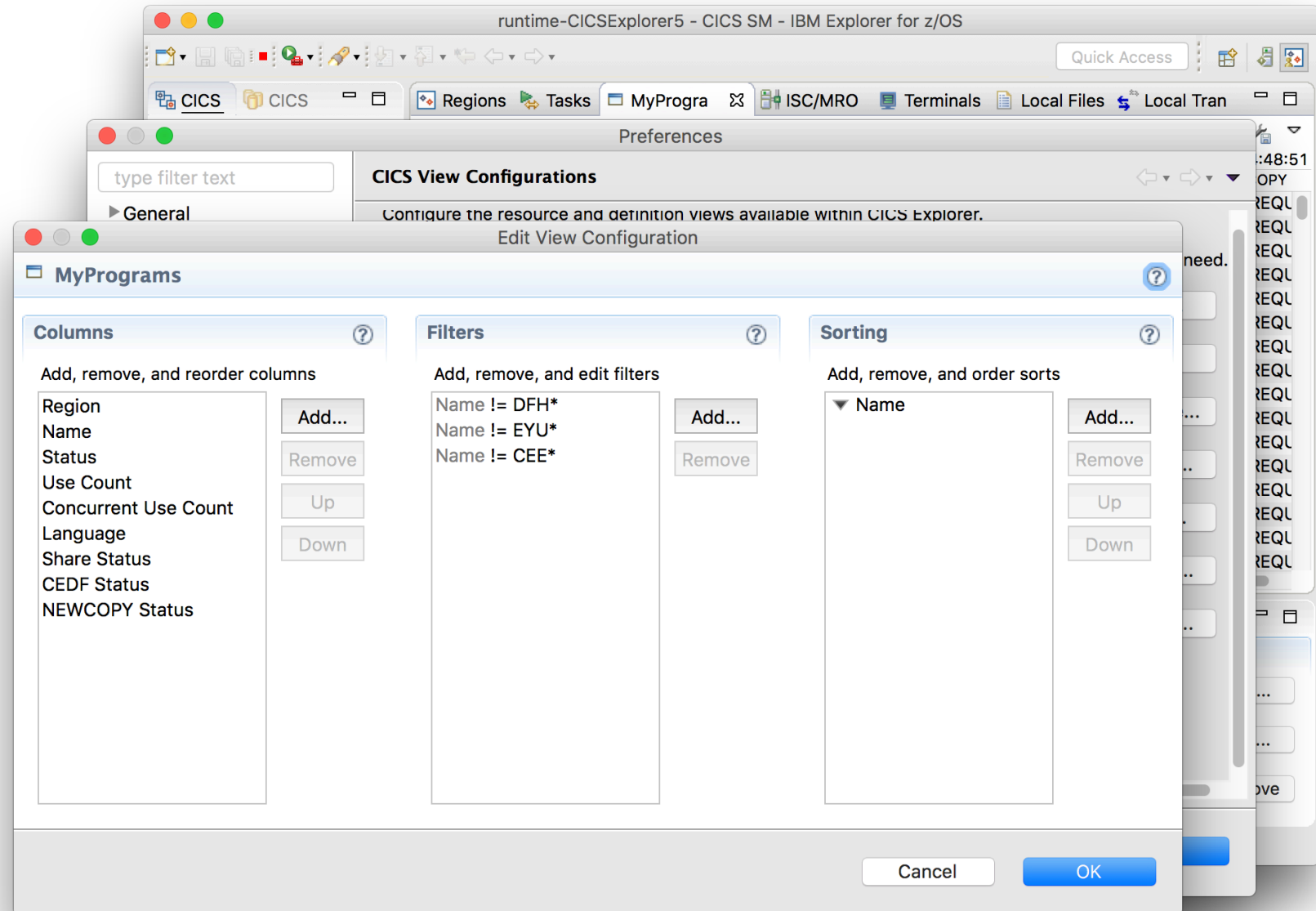
View Customisation

- Create your own
- More than one view per resource type
- Delete views
- Changes applied to menus and quick access also

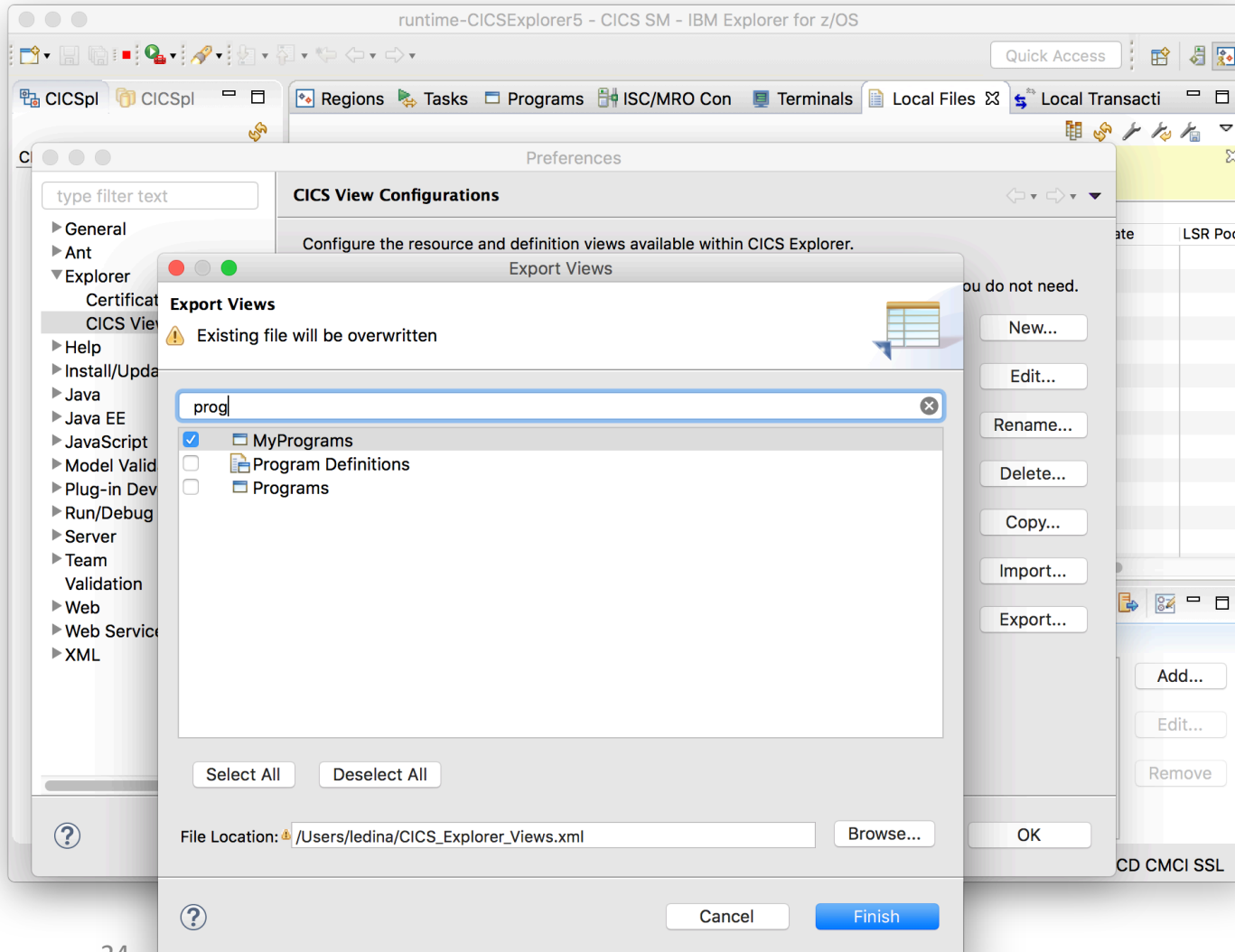


View Customisation

- Customize
 - Columns
 - Filters
 - Sorts
- Choice of operators for filters (not just “equals”)
- Sort directions



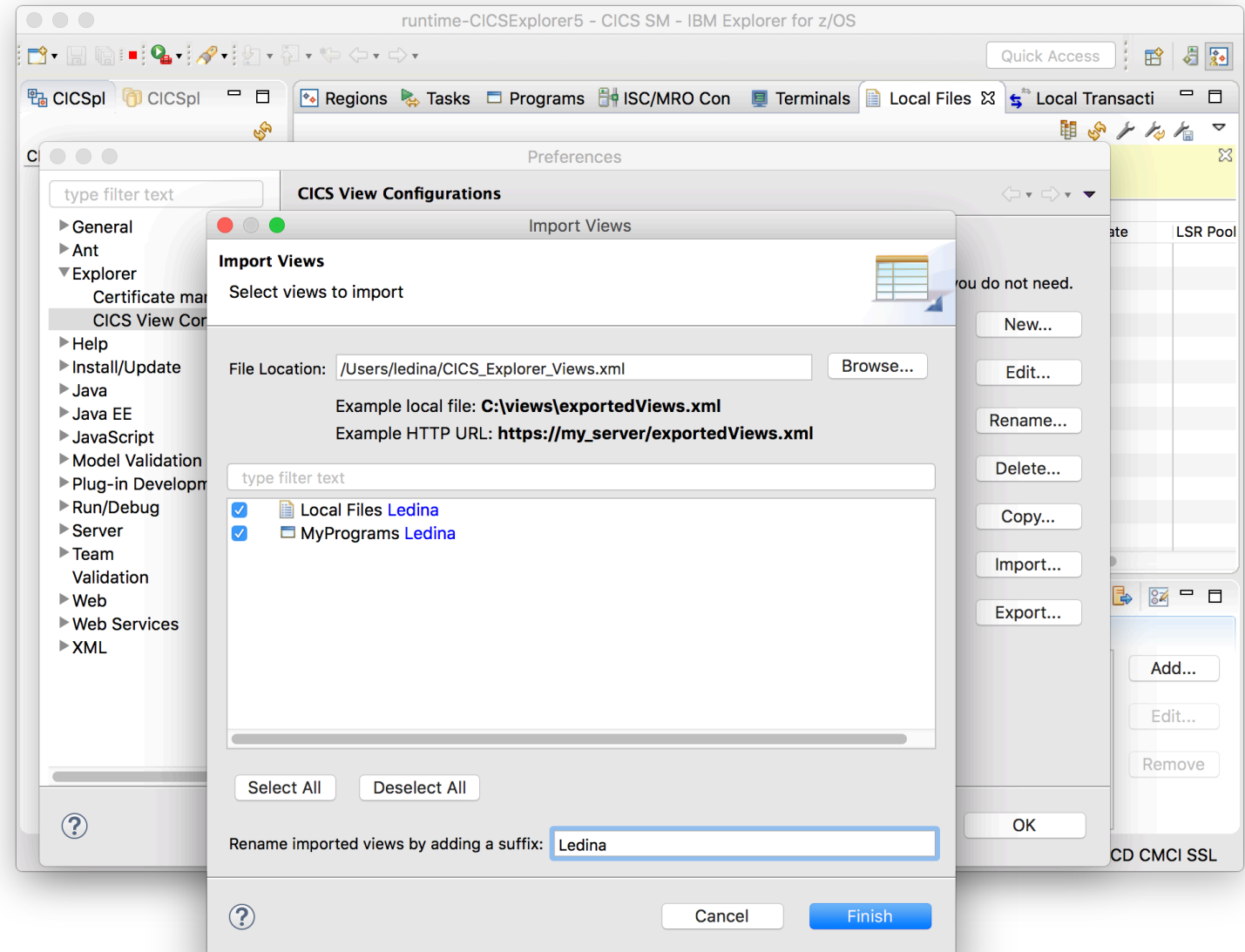
View Sharing: Export



- Enable sharing across teams
- Setting up new starters with views useful for their tasks
- Back-up purposes
- Choose what to export

View Sharing: Import

- Imported into CICS Explorer instances either as:
 - A file OR
 - From a central Web server
- Customise name on import
 - Avoids clashes



Demo

Scenario 1: Customising and Sharing Views

- Stan, the senior system programmer, has noticed there are certain operations on some views he performs over and over again. He wants to save them so he doesn't have to manually do them each time.
- Julian, joined the team as a junior system programmer. Stan shares his customised views with Julian, so Julian has all he needs to perform his everyday tasks.

What's Even Newer: CICS TS 5.5

- We want CICS Explorer 5.5 to be your go-to interface for CICS system management instead of the Web UI
- Find the bits that are missing, and bring them to Explorer in a way that's natural for a rich desktop product

Our Goal

“A system programmer no longer needs to configure and deploy the WUI, because the capabilities he needs are better in CICS Explorer ”

Aggregation

- Take a set of data and perform some analysis on it to make it easier to spot discrepancies
- Divide records into groups where the values of certain attributes match
- Within a group, perform analysis on the values of attributes that don't match

Grouping

- Similar to summarise in WUI
- More powerful

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- ▶ CICSEXCD (7/7)
- ▶ DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 49 (filtered) records collected at 5 Feb 2018, 15:58:10

| Region | Name | Program | Status | Use Count | Availability | Priority | Transaction C | Pur |
|--------|------|---------|-----------|-----------|--------------|----------|---------------|-----|
| CWEZG1 | CWBA | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZG1 | CWBG | DFHWBGB | ✓ ENABLED | 16 | N/A | 255 | DFHTCL00 | NO |
| CWEZG1 | CWTO | DFHCWTO | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZG1 | CWWU | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZG1 | CWXN | | | 0 | N/A | 1 | DFHTCL00 | NO |
| CWEZG1 | CWXU | | | 0 | N/A | 1 | DFHTCL00 | NO |
| CWEZG1 | CW2A | | | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZH1 | CWBA | | | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZH1 | CWBG | | | 6 | N/A | 255 | DFHTCL00 | NO |
| CWEZH1 | CWTO | | | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZH1 | CWWU | | | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZH1 | CWXN | | | 0 | N/A | 1 | DFHTCL00 | NO |
| CWEZH1 | CWXU | | | 0 | N/A | 1 | DFHTCL00 | NO |
| CWEZH1 | CW2A | | | 0 | N/A | 1 | DFHTCL00 | PU |
| CWEZ11 | CWBA | | | 0 | N/A | 1 | DFHTCL00 | PU |

Open
Open Related
Copy
Group By
Aggregate Function
Add Quick Filter
Enable
Disable
Discard

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

Grouping

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

Server: EZCM

CICSEXCD (7/7)

DUMMY907 (0/0)

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (filtered, aggregated) records collected at 5 Feb 2018, 16:54:

| Count | Name | Region | Program | Status | Use Count | Availability | Priority | Transaction |
|-------|------|----------|---------|-----------|-----------|--------------|----------|-------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | 0.2857143 | **** | 1.0 | DFHTCLOC |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17.0 | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENABLED | 132.85715 | **** | 1.0 | DFHTCLOC |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.2857143 | **** | 1.0 | DFHTCLOC |
| 7 | CWXU | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

cicsexcd:28941

- Grouped columns in darker shade
- Other columns aggregated
- Stars (*) show differences
- Count column shows number of resources aggregated in each row

Aggregation

- No group
- All fields are aggregated
- Good for spotting anomalies

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

Server: EZCM

▼ CICSEXCD (7/7)

▶ Workload Management

▼ Systems

- ▣ IYCWEZG1 (IYCWEZG)
- ▣ IYCWEZH1 (IYCWEZH)
- ▣ IYCWEZI1 (IYCWEZI)
- ▣ IYCWEZJ1 (IYCWEZJ)
- ▣ IYCWEZW1 (IYCWEZW)
- ▣ IYCWEZW2 (IYCWEZW)
- ▣ IYCWEZZ1 (IYCWEZZ)

▶ System Groups

▶ DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local Local File De Local

Name != DFH* Name != EYU*

CNX0211I Context: CICSEXCD. Resource: LOCFILE. 1 (filtered, sorted, aggregated) record collected at 1 Feb 2018, 12:36:0

| Count | Region | Name | Status | Open Status | Add | Browse | Delete | Read |
|-------|----------|-------|-----------|-------------|------------|-----------|------------|------|
| 21 | IYCWEZ** | ***** | ✓ ENABLED | CLOSED | NOTADDABLE | NOTBROWSA | NOTDELETAB | READ |

CNX0611I: Perform DISABLE (BUSY=FORC...I File "LOG" in "IYCWEZI1" succeeded

cicsexcd:28941

DEMO

Scenario 2: Something Wrong With a Transaction

- Annette, the operations analyst, has seen some anomalies and performance issues with an application running in the system.
- The error message suggests there is an issue with a transaction.
- Annette contacts Stan, the system programmer, and informs him of the problem

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

CICSEXCD (7/7)

DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 49 (filtered) records collected at 5 Feb 2018, 15:58:10

| Region | Name | Program | Status | Use Count | Availability | Priority | Transaction | C | Pur |
|--------|------|---------|-----------|-----------|--------------|----------|-------------|----|-----|
| CWEZG1 | CWBA | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZG1 | CWBG | DFHWBGB | ✓ ENABLED | 16 | N/A | 255 | DFHTCL00 | NO | |
| CWEZG1 | CWTO | DFHCWTO | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZG1 | CWWU | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZG1 | CWXN | DFHWBXN | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZG1 | CWXU | DFHWBXN | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZG1 | CW2A | DFHW2A | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZH1 | CWBA | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZH1 | CWBG | DFHWBGB | ✓ ENABLED | 16 | N/A | 255 | DFHTCL00 | NO | |
| CWEZH1 | CWTO | DFHCWTO | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZH1 | CWWU | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZH1 | CWXN | DFHWBXN | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZH1 | CWXU | DFHWBXN | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZH1 | CW2A | DFHW2A | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZI1 | CWBA | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |

cicsexcd:28941

I know the transactions for that app start with CW so lets see add a filter

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 49 (filtered) records collected at 5 Feb 2018, 15:58:10

| Region | Name | Program | Status | Use Count | Availability | Priority | Transaction | C | Pui |
|--------|------|---------|-----------|-----------|--------------|----------|-------------|----|-----|
| CWEZG1 | CWBA | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZG1 | CWBG | DFHWBGB | ✓ ENABLED | 16 | N/A | 255 | DFHTCL00 | NO | |
| CWEZG1 | CWTO | DFHCWTO | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZG1 | CWWU | DFHWBA | ✓ ENABLED | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZG1 | CWXN | | | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZG1 | CWXU | | | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZG1 | CW2A | | | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZH1 | CWBA | | | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZH1 | CWBG | | | 6 | N/A | 255 | DFHTCL00 | NO | |
| CWEZH1 | CWTO | | | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZH1 | CWWU | | | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZH1 | CWXN | | | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZH1 | CWXU | | | 0 | N/A | 1 | DFHTCL00 | NO | |
| CWEZH1 | CW2A | | | 0 | N/A | 1 | DFHTCL00 | PU | |
| CWEZI1 | CWBA | | | 0 | N/A | 1 | DFHTCL00 | PU | |

Open
Open Related
Copy
Group By
Aggregate Function
Add Quick Filter
Enable
Disable
Discard

I will group by the Name so I can see which transaction might have a problem

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (filtered, aggregated) records collected at 5 Feb 2018, 16:54:

| Count | Name | Region | Program | Status | Use Count | Availability | Priority | Transaction |
|-------|------|----------|---------|-----------|-----------|--------------|----------|-------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | 0.2857143 | **** | 1.0 | DFHTCLOC |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17.0 | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENABLED | 132.85715 | **** | 1.0 | DFHTCLOC |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.2857143 | **** | 1.0 | DFHTCLOC |
| 7 | CWXU | IYCWEZ** | | | | | 1.0 | DFHTCLOC |

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

cicsexcd:28941

This icon tells me I am in aggregation mode

The status bar also tells me that I am aggregated and if I hover on it I can see what I am grouped on as well as my filters and sorts

Now that I have grouped on Name the rest of the attributes have been aggregated and the Count tells me how many files I have for each group

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (filtered, aggregated) records collected at 5 Feb 2018, 16:54:

| Count | Name | Region | Program | Status | Use Count | Availability | Priority | Transaction |
|-------|------|----------|---------|-----------|-----------|--------------|----------|-------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | 0.2857143 | **** | 1.0 | DFHTCLOC |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17.0 | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENABLED | 0.0 | **** | 1.0 | DFHTCLOC |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENABLED | 132.85715 | **** | 1.0 | DFHTCLOC |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.2857143 | **** | 1.0 | DFHTCLOC |
| 7 | CWXU | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.0 | **** | | |

By the default I can see the average Use Count but I need to see if there is any difference between the values per transaction

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

cicsexcd:28941

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (filtered, aggregated) records collected at 5 Feb 2018, 16:54:

| Count | Name | Region | Program | Status | Use Count | Availability | Priority | Transaction |
|-------|------|----------|---------|-----------|-----------|--------------|----------|-------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0.0 | | | |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | 0.2857143 | | | |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17.0 | | | |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENA | | | | |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENA | | | | |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENA | | | | |
| 7 | CWXU | IYCWEZ** | DFHWBXN | ✓ ENA | | | | |

Copy

Group By

Aggregate Function

Expand

Add Quick Filter

✓ Average
Maximum
Minimum
Sum
Difference

Right click on Use Count column and I can change the aggregation function to Difference

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

cicsexcd:28941

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (filtered, aggregated) records collected at 5 Feb 2018, 16:54:

| Count | Name | Region | Program | Status | Use Count | Availability | Priority | Transaction |
|-------|------|----------|---------|-----------|-----------|--------------|----------|-------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0 | **** | 1.0 | DFHTCLOC |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | * | **** | 1.0 | DFHTCLOC |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17 | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENABLED | 0 | **** | 1.0 | DFHTCLOC |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENABLED | *** | **** | 1.0 | DFHTCLOC |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENABLED | * | **** | | |
| 7 | CWXU | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0 | **** | | |

Hmm I can see for some of the transactions there are * which suggests the values are different - need to look into it more

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
 - DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (filtered, aggregated) records collected at 5 Feb 2018, 16:24:

| Count | Name | Region | Program | Status | Use Count | Availability | Priority | Transaction |
|-------|------|----------|---------|-----------|-----------|--------------|----------|-------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0 | **** | 1.0 | DFHTCLOC |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | * | **** | 1.0 | DFHTCLOC |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17 | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENABLED | 0 | **** | 1.0 | DFHTCLOC |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENABLED | *** | | | |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENABLED | * | | | |
| 7 | CWXU | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0 | | | |

Copy ⌘C

Group By

Aggregate Function ▶

Expand

I can group by more than one attribute in Explorer so I will add a group on the Use Count column too

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

cicsexcd:28941

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 11 (filtered, aggregated) records collected at 5 Feb 2018, 16:3

| Count | Name | Use Count | Region | Program | Status | Availability | Priority | Transaction |
|-------|------|-----------|----------|---------|-----------|--------------|----------|-------------|
| 7 | CW2A | 0 | IYCWEZ** | DFHW2A | ✓ ENABLED | **** | 1.0 | DFHTCLOC |
| 6 | CWBA | 0 | IYCWEZ*1 | DFHWBA | ✓ ENABLED | **** | 1.0 | DFHTCLOC |
| 1 | CWBA | 2 | IYCWEZW2 | DFHWBA | ✓ ENABLED | NONE | 1.0 | DFHTCLOC |
| 7 | CWBG | 17 | IYCWEZ** | DFHWBGB | ✓ ENABLED | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | 0 | IYCWEZ** | DFHCWTO | ✓ ENABLED | **** | | |
| 5 | CWWU | 0 | IYCWEZ*1 | DFHWBA | ✓ ENABLED | **** | | |
| 1 | CWWU | 27 | IYCWEZW2 | DFHWBA | ✓ ENABLED | NONE | | |
| 1 | CWWU | 717 | IYCWEZW1 | DFHWBA | ✓ ENABLED | NONE | | |
| 6 | CWXN | 0 | IYCWEZ*1 | DFHWBXN | ✓ ENABLED | **** | | |
| 1 | CWXN | 2 | IYCWEZW2 | DFHWBXN | ✓ ENABLED | NONE | 1.0 | DFHTCLOC |
| 7 | CWXU | 0 | IYCWEZ** | DFHWBXN | ✓ ENABLED | **** | 1.0 | DFHTCLOC |

That looks suspicious, that transaction should be running on all those regions

4 IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

3 cicsexcd:28941

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 11 (filtered, aggregated) records collected at 5 Feb 2018, 16:30

| Count | Name | Use Count | Region | Program | Status | Availability | Priority | Transaction |
|-------|------|-----------|----------|---------|-----------|--------------|----------|-------------|
| 7 | CW2A | 0 | IYCWEZ** | DFHW2A | ✓ ENABLED | **** | 1.0 | DFHTCLOC |
| 6 | CWBA | 0 | IYCWEZ*1 | DFHWBA | ✓ ENABLED | **** | 1.0 | DFHTCLOC |
| 1 | CWBA | 2 | IYCWEZW2 | DFHWBA | ✓ ENABLED | NONE | 1.0 | DFHTCLOC |
| 7 | CWBG | 17 | IYCWEZ** | DFHWBGB | ✓ ENABLED | **** | 255.0 | DFHTCLOC |
| 7 | CWTO | 0 | IYCWEZ** | DFHCWTO | ✓ ENABLED | **** | 1.0 | DFHTCLOC |
| 5 | CWWU | 0 | IYCWEZ*1 | | | | 1.0 | DFHTCLOC |
| 1 | CWWU | 27 | IYCWEZW2 | | | | 1.0 | DFHTCLOC |
| 1 | CWWU | 717 | IYCWEZW1 | | | | 1.0 | DFHTCLOC |
| 6 | CWXN | 0 | IYCWEZ*1 | | | | 1.0 | DFHTCLOC |
| 1 | CWXN | 2 | IYCWEZW2 | | | | 1.0 | DFHTCLOC |
| 7 | CWXU | 0 | IYCWEZ** | | | | 1.0 | DFHTCLOC |

Copy ⌘C

✓ Group By

Aggregate Function ▶

Expand

I will expand the group to see which regions are problematic

4 IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

4 cicsexcd:28941

Scenario 3: Something Wrong With a Transaction

.zosexplorer-cicsex55beta2 - CICS SM - IBM Explorer for z/OS - /Users/ledina/.zosexplorer-cicsex55beta2

Quick Access

CICS CICS

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Regio Tasks Progr ISC/ Termi Local Local File D Local

Name = CWWU Use Count = 0

CNX0211 Context: CICSEXCD. Resource: LOCTRAN. 5 (filtered) records collected at 5 Feb 2018, 16:54:15

| Region | Name | Availability | Status | Use Count | Program | Priority | Transaction | C | Pur |
|----------|------|--------------|-----------|-----------|---------|----------|-------------|-----|-----|
| IYCWEZG1 | CWWU | N/A | ✓ ENABLED | 0 | DFHWBA | 1 | DFHTCL00 | PUF | |
| IYCWEZH1 | CWWU | N/A | ✓ ENABLED | 0 | DFHWBA | 1 | DFHTCL00 | PUF | |
| IYCWEZI1 | CWWU | N/A | ✓ ENABLED | 0 | DFHWBA | 1 | DFHTCL00 | PUF | |
| IYCWEZJ1 | CWWU | NONE | ✓ ENABLED | 0 | DFHWBA | 1 | DFHTCL00 | PUF | |
| IYCWEZZ1 | CWWU | NONE | ✓ ENABLED | 0 | DFHWBA | 1 | DFHTCL00 | PUF | |

The transaction doesn't seem to have run in these regions, will need to look into my workload setup to check that the routing is set up correctly

cicsexcd:28941

Making Multiple Changes

Server: EZCM

- CICSEXCD (7/7)
- DUMMY907 (0/0)

Region Tasks Progra ISC/M Termin Local F Local T File Def

Name = CW*

CNX0211I Context: CICSEXCD. Resource: LOCTRAN. 7 (fil

| Count | Name | Region | Program | Status | | | |
|-------|------|----------|---------|-----------|-----------|------|----------------|
| 7 | CW2A | IYCWEZ** | DFHW2A | ✓ ENABLED | 0.0 | **** | 1.0 DFHTCLOC |
| 7 | CWBA | IYCWEZ** | DFHWBA | ✓ ENABLED | 0.2857143 | **** | 1.0 DFHTCLOC |
| 7 | CWBG | IYCWEZ** | DFHWBGB | ✓ ENABLED | 17.0 | **** | 255.0 DFHTCLOC |
| 7 | CWTO | IYCWEZ** | DFHCWTO | ✓ ENABLED | 0.0 | **** | 1.0 DFHTCLOC |
| 7 | CWWU | IYCWEZ** | DFHWBA | ✓ ENABLED | 132.85715 | **** | 1.0 DFHTCLOC |
| 7 | CWXN | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.2857143 | **** | 1.0 DFHTCLOC |
| 7 | CWXU | IYCWEZ** | DFHWBXN | ✓ ENABLED | 0.0 | **** | 1.0 DFHTCLOC |

Configure Grouping...
Clear Grouping
Configure Aggregate Functions...

If you need to add multiple groups or change multiple aggregate functions it might be easier to use the dialogs provided

IZE0106E Connect failed with error "Unauthorized" (cicsexcd:28941)

cicsexcd:28941

Making Multiple Changes

Aggregation merges resource records together to display a summarized view for one or more attributes.

☒ Enable aggregation

Grouping Aggregate Functions

Select grouping attributes to group records by.

Visible attributes:

- Region
- Availability
- Status
- Use Count
- Program
- Priority
- Transaction Class
- Purgeability
- Dumping
- Routing

Grouping attributes:

Name

Up

Down

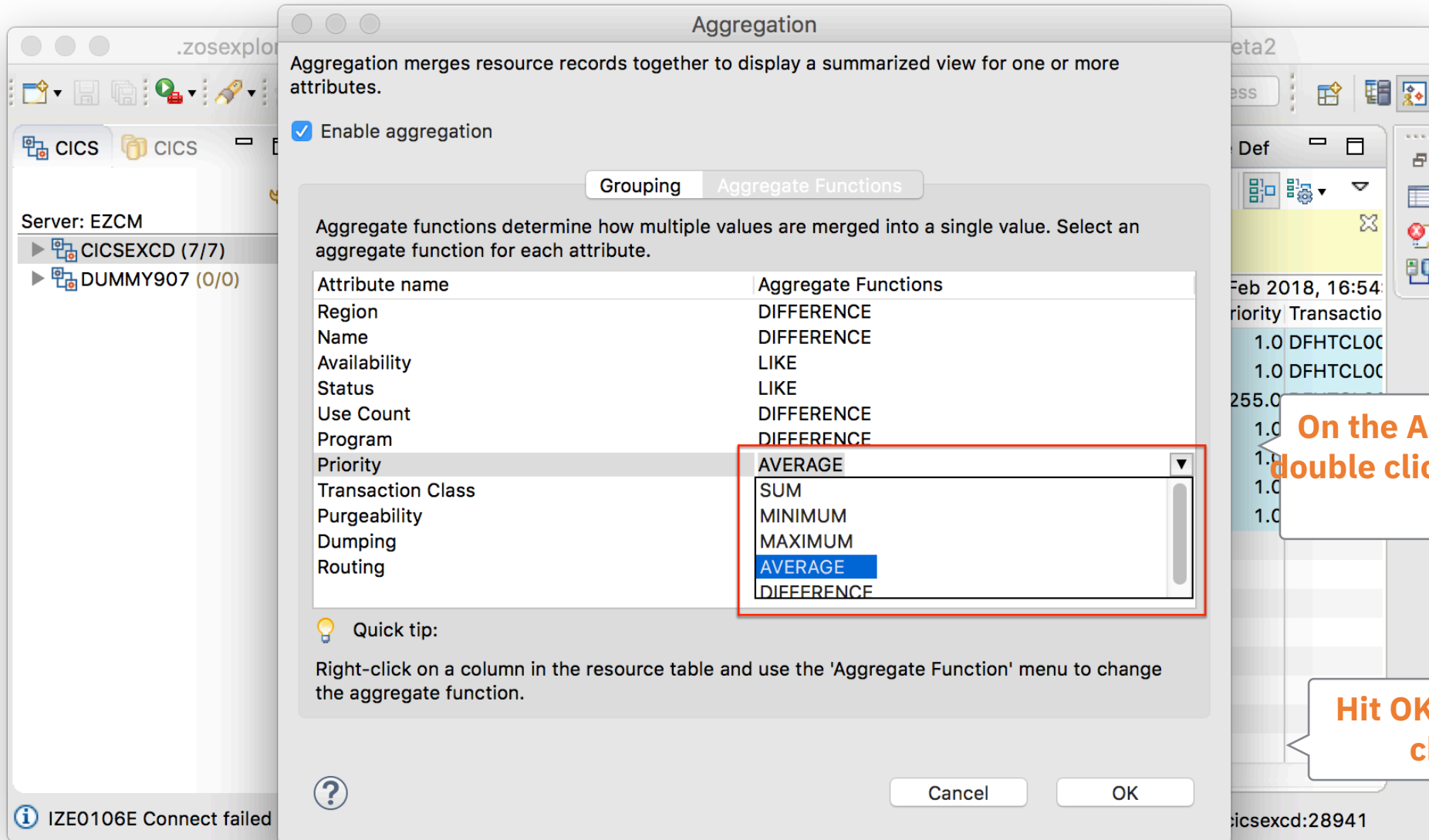
Quick tip:

Right-click on a column in the resource table and select 'Group By' to add and remove grouped attributes.

Cancel OK

Use the arrow buttons to add or remove groupings, and Up and Down buttons to change order of groupings, once you have enabled aggregation

Making Multiple Changes



Aggregation merges resource records together to display a summarized view for one or more attributes.

☒ Enable aggregation

Grouping Aggregate Functions

Aggregate functions determine how multiple values are merged into a single value. Select an aggregate function for each attribute.

| Attribute name | Aggregate Functions |
|-------------------|---------------------|
| Region | DIFFERENCE |
| Name | DIFFERENCE |
| Availability | LIKE |
| Status | LIKE |
| Use Count | DIFFERENCE |
| Program | DIFFERENCE |
| Priority | AVERAGE |
| Transaction Class | SUM |
| Purgeability | MINIMUM |
| Dumping | MAXIMUM |
| Routing | AVERAGE |
| | DIFFERENCE |

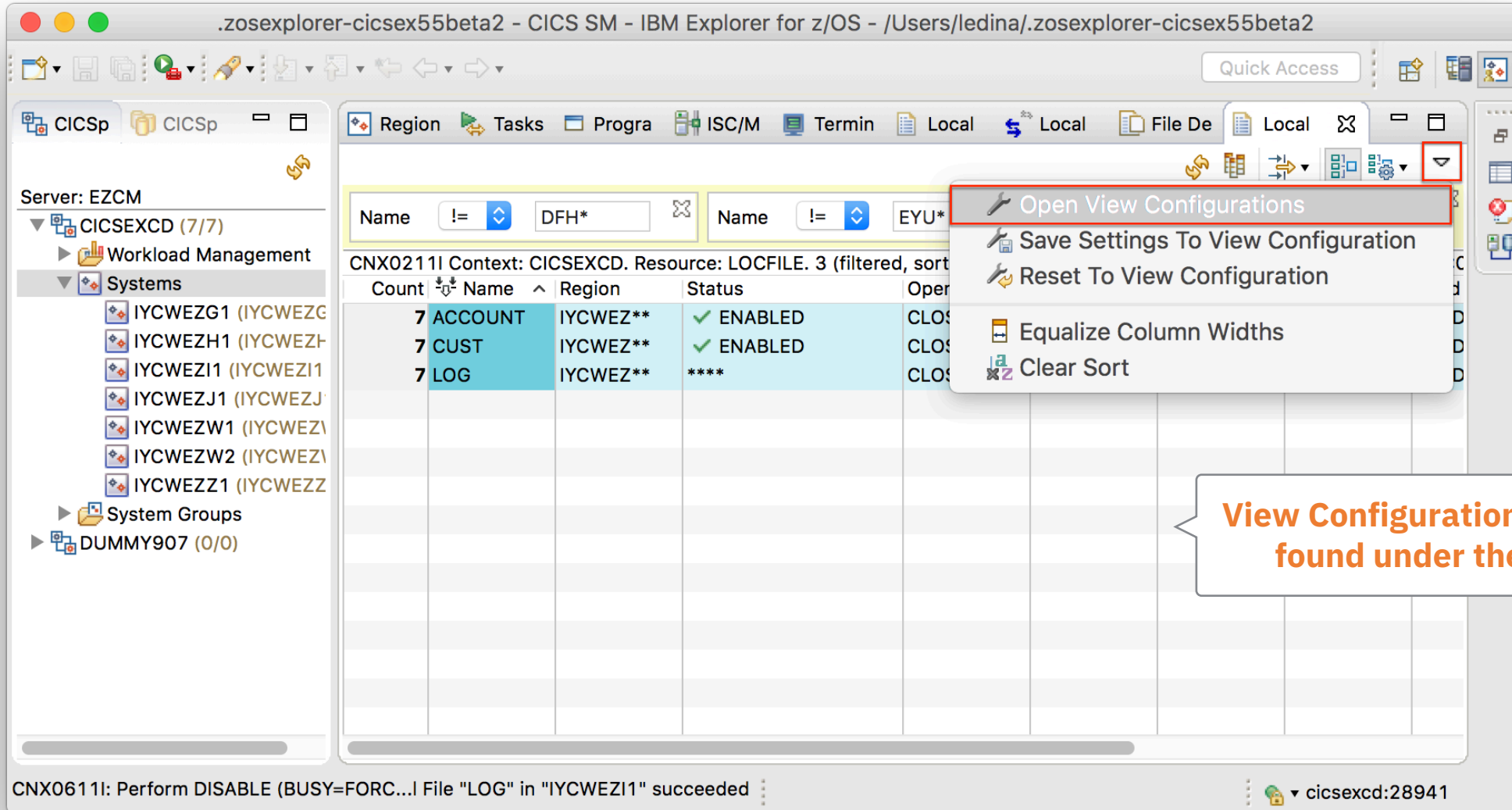
Quick tip:
Right-click on a column in the resource table and use the 'Aggregate Function' menu to change the aggregate function.

Cancel OK

On the Aggregate Functions tab, double click on a function to change its value

Hit OK to save the changes

View Configuration - Aggregation Support



The screenshot shows the IBM Explorer for z/OS interface. The left pane displays the project structure for 'Server: EZCM', including 'CICSEXCD (7/7)' and 'Systems'. The main pane shows a table of data for 'CNX0211I Context: CICSEXCD. Resource: LOCFE. 3 (filtered, sort)'. A context menu is open over the table, listing options for view configuration.

| Count | Name | Region | Status | Oper |
|-------|---------|----------|-----------|------|
| 7 | ACCOUNT | IYCWEZ** | ✓ ENABLED | CLOS |
| 7 | CUST | IYCWEZ** | ✓ ENABLED | CLOS |
| 7 | LOG | IYCWEZ** | **** | CLOS |

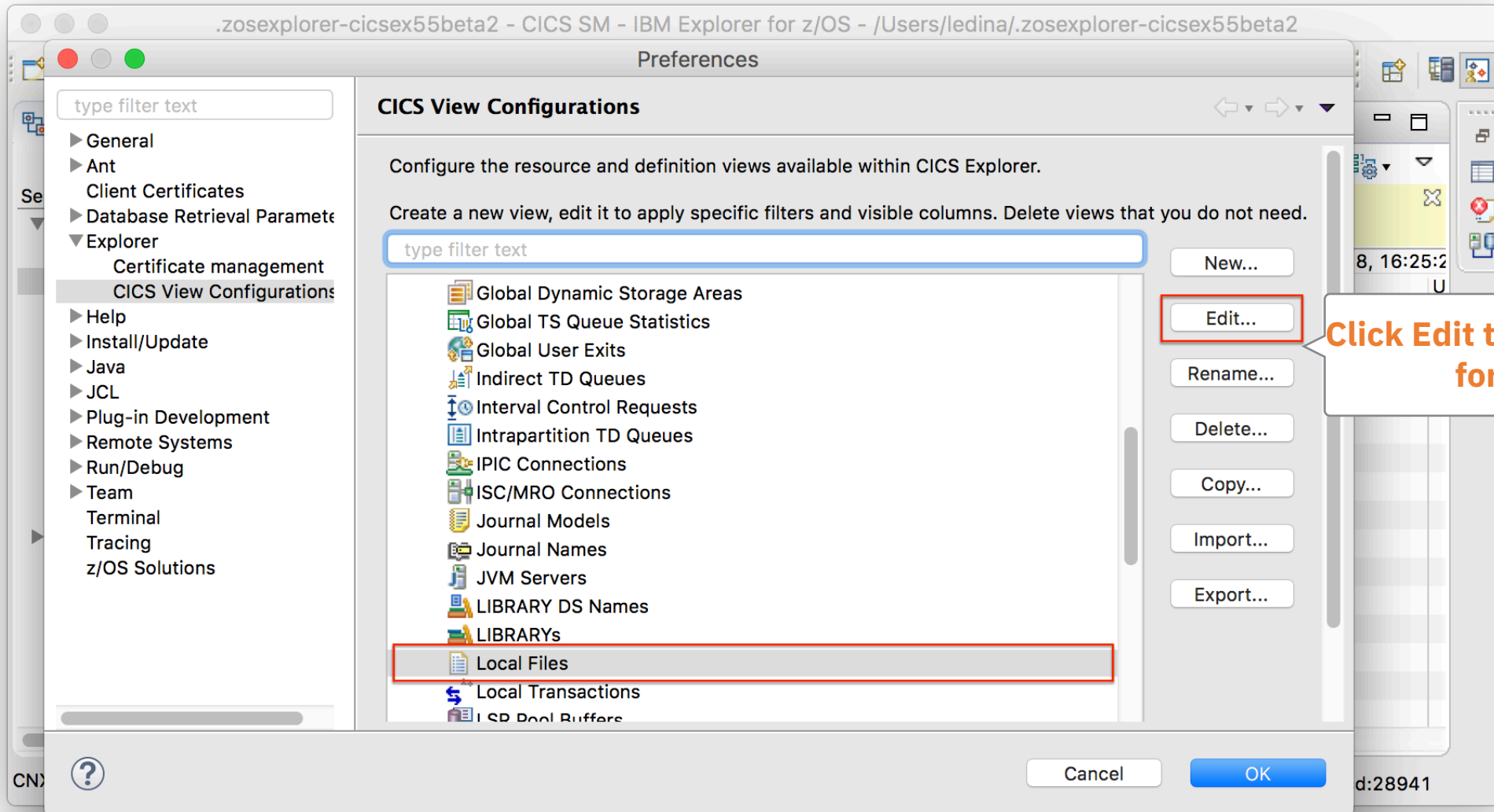
The context menu options are:

- Open View Configurations
- Save Settings To View Configuration
- Reset To View Configuration
- Equalize Column Widths
- Clear Sort

View Configuration options can be found under the View Menu

At the bottom, a status bar shows: 'CNX0611I: Perform DISABLE (BUSY=FORC...I File "LOG" in "IYCWEZ11" succeeded' and 'cicsexcd:28941'.

View Configuration - Aggregation Support



Click Edit to change the configuration for the selected view

View Configuration - Aggregation Support

The screenshot displays the 'Local Files' window with a 'Columns' section and an 'Add Groups' dialog box. The 'Columns' section lists attributes and their aggregate functions. The 'Add Groups' dialog shows a list of attributes with 'Name' selected. The 'Aggregation' section in the background has the 'Enable aggregation' checkbox checked and the 'Add...' button highlighted.

Columns

Add, remove, reorder columns, and select how they are aggregated

| Attribute name | Aggregate Functions |
|----------------|---------------------|
| Region | DIFFERENCE |
| Name | DIFFERENCE |
| Status | LIKE |
| Open Status | LIKE |
| Add | LIKE |
| Browse | LIKE |
| Delete | LIKE |
| Read | LIKE |
| Update | LIKE |
| LSR Pool ID | MAXIMUM |
| DS Name | DIFFERENCE |

Add Groups

type filter text

- Add
- Browse
- Delete
- DS Name
- LSR Pool ID
- Name**
- Open Status
- Read
- Region
- Status
- Update

Sorting

Add, remove, and order sorts

Aggregation

☒ Enable aggregation

Select attributes to group records by:

Enable it and optionally add groups

View Configuration - Aggregation Support

Edit View Configuration

Local Files

Columns ?

Add, remove, reorder columns, and select how they are aggregated

| Attribute name | Aggregate Functions |
|----------------|---------------------|
| Region | DIFFERENCE |
| Name | DIFFERENCE |
| Status | LIKE |
| Open Status | LIKE |
| Add | LIKE |
| Browse | LIKE |
| Delete | LIKE |
| Read | LIKE |
| Update | LIKE |
| LSR Pool ID | MAXIMUM |
| DS Name | DIFFERENCE |

Add... Remove Up Down

Filters ?

Add, remove, and edit filters

Add... Remove

Sorting ?

Add, remove, and order sorts

Add... Remove Up Down

Aggregation ?

☒ Enable aggregation

Select attributes to group records by:

Name

Add... Remove Up Down

Cancel OK

Hit OK to save the changes

Aggregate Functions

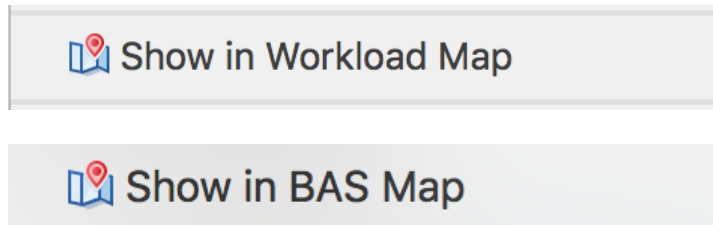
- Strings
 - DIFFERENCE: Show analysis of common characters
- Enumerations (CVDA / EYUDA values)
 - LIKE: Show whether all of the enumeration values match
- Numbers
 - MINIMUM: Show the minimum value
 - MAXIMUM: Show the maximum value
 - AVERAGE: Show the mean average
 - SUM: Show the total of all values
 - DIFFERENCE

Aggregation vs WUI

- More flexibility around configuring
- Saveable as part of view configuration
- Group by multiple columns

Map

- Show the relationship between resources
- Eligible resources get an extra right click menu option



- Open beta has support for Map operations on workload management 'definition' resources, and BAS resources

Scenario 3: Something wrong with a specification

- Annette, the operations analyst, has identified performance issues with the payroll application running in the system.
- She contacts Stan, the system programmer, and informs him of the problem.
- Stan knows the WLM specification associated with that application so decides to take a look.

Regions Workload Specifications Tasks Programs ISC/MRO Connections Terminals Local Files

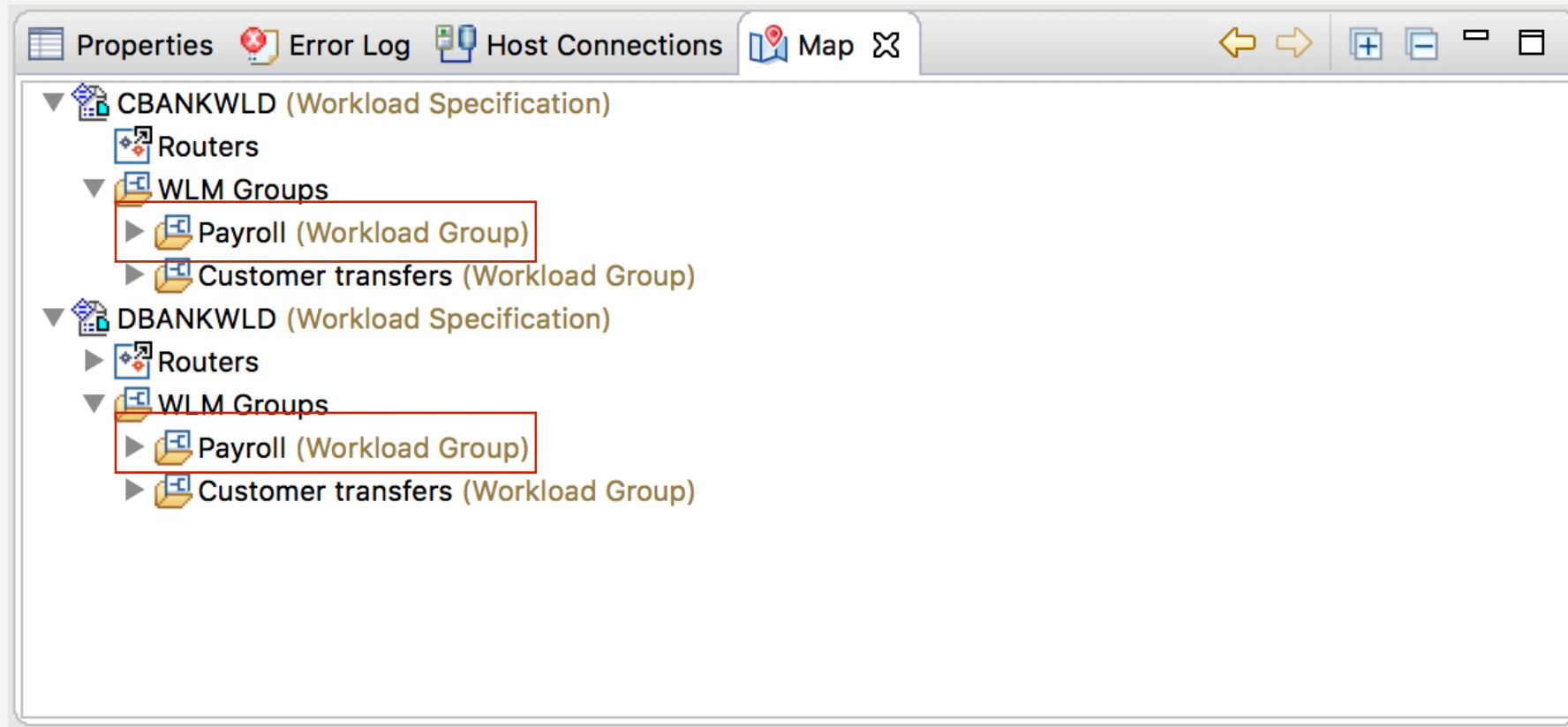
CNX0211I Context: CICSEX55. Resource: WLMSPEC. 15 records collected at 9 May 2018, 14:25:34

| Name | Default Affinity | Affinity Lifetime | Target Scope | Automatic Affinity C | Match | Event Name |
|----------|------------------|-------------------|--------------|----------------------|--------|------------|
| ACCT | N_A | N_A | ZEMAORS | N_A | LUNAME | |
| ACCTF | N_A | N_A | ZEMAORS | N_A | LUNAME | |
| CBANKWLD | N_A | N_A | IYCWELL1 | N_A | LUNAME | |
| DBANKWLD | | | YCWELK1 | N_A | LUNAME | |
| DEMO | | | EMOGRP1 | N_A | LUNAME | |
| EMPTY | | | LL | N_A | LUNAME | |
| EMPTY2 | | | LL | N_A | LUNAME | |
| EXPWRK1 | | | XPAGRP1 | N_A | LUNAME | |
| EXPWRK2 | | | XPAGRP2 | N_A | LUNAME | |
| HI | | | LL | N_A | LUNAME | |
| OTHER | | | UIGRP | N_A | LUNAME | |
| TESTWL | | | LL | N_A | LUNAME | |
| TESTWLM | | | LL | N_A | LUNAME | |
| WFDEMO | | | ORS | N_A | LUNAME | |
| ZEMWSPEC | | | EMAORS | N_A | LUNAME | |

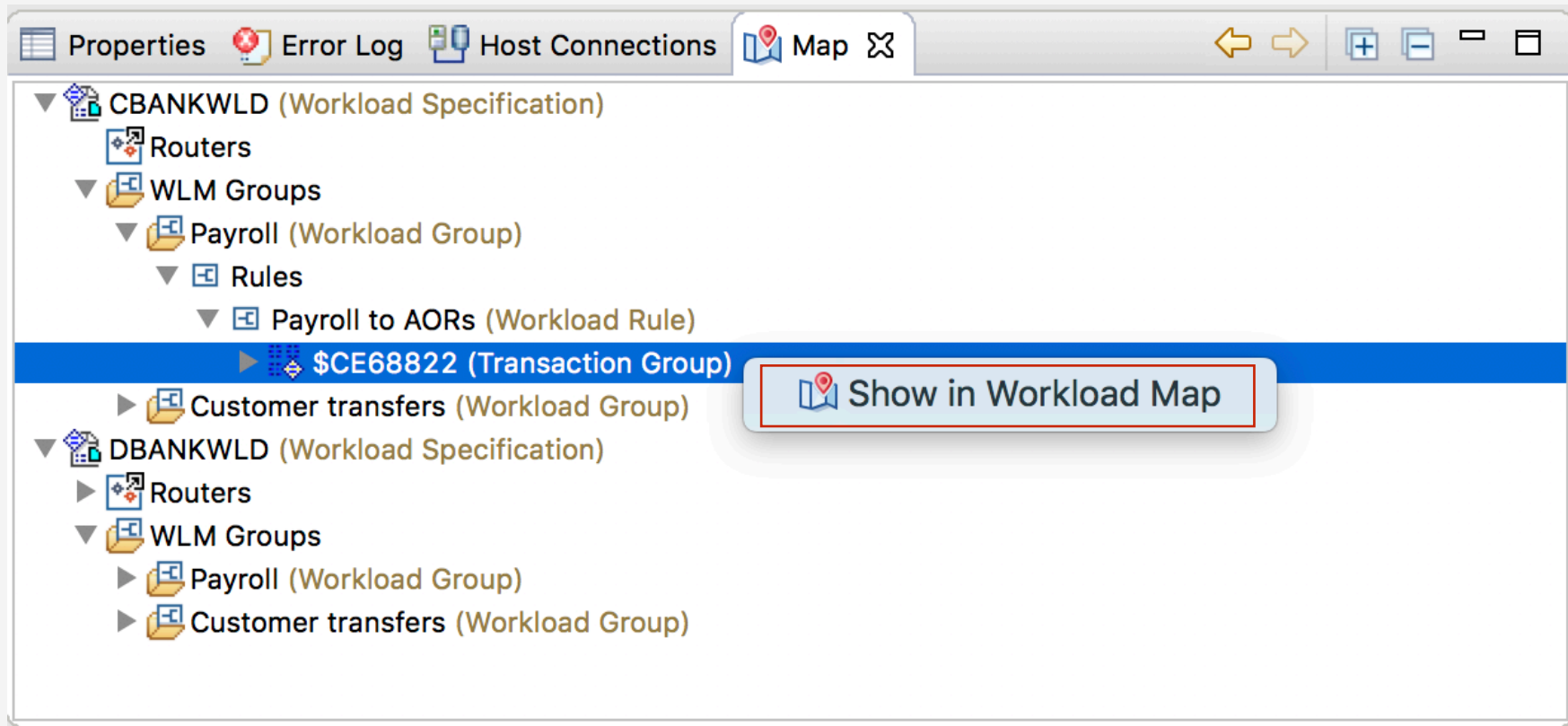
Context menu options:

- New...
- New from...
- Open Workload Specification
- Copy ⌘C
- Add Quick Filter
- Show in Workload Map
- Delete ⌘X

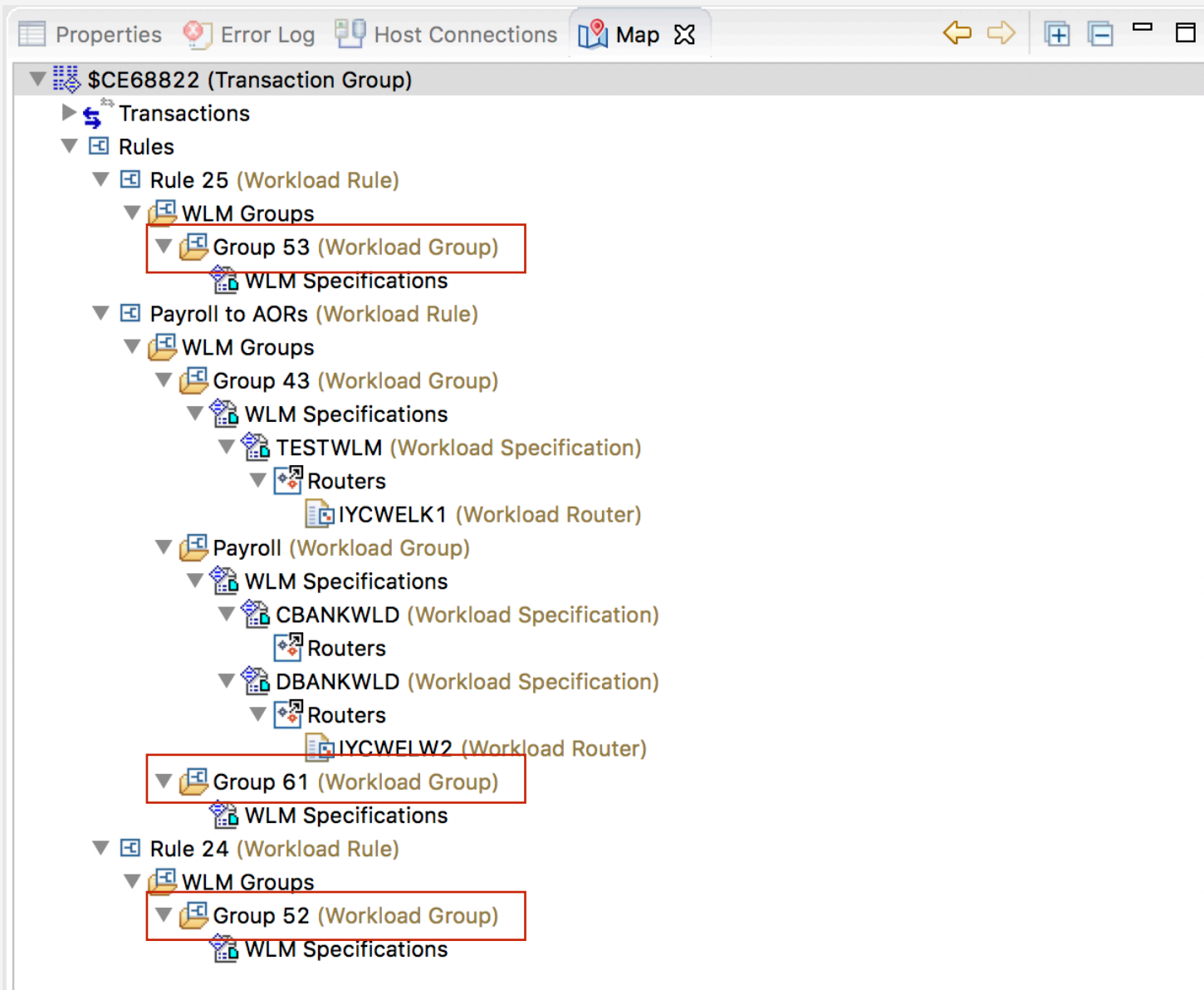
Map on 2 Workload Specifications



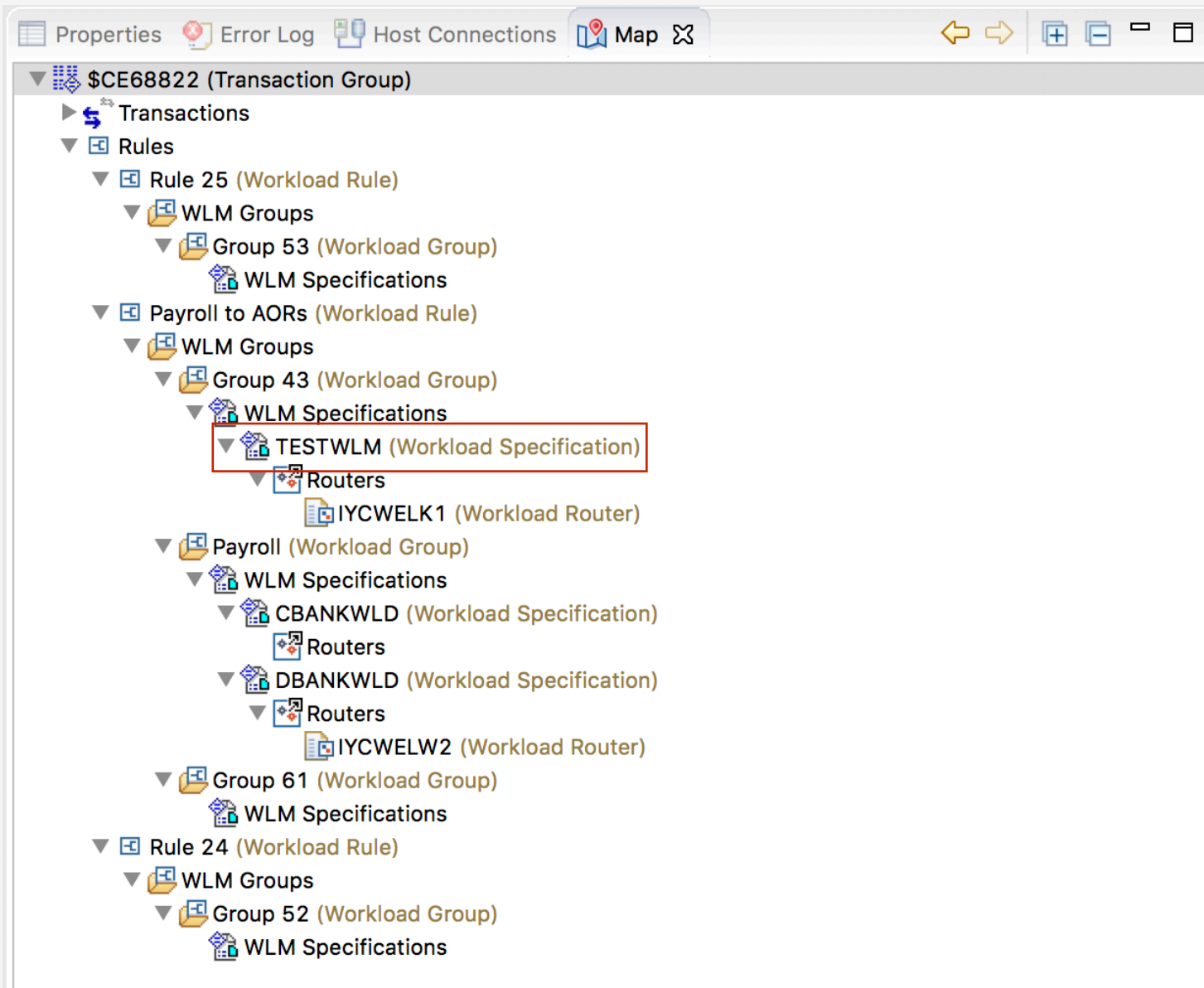
The new Map view has opened with our 2 Workload Specifications as the root. Expanding WLM Groups shows the groups in each spec, and both contain the Payroll group.



Expanding the Map to show further relationships shows the Transaction Group associated with this Workload Group. Remapping on the Transaction Group \$CE68822 can show where else it is used.



Expanding the map shows all Specifications that this Transaction Group is used in. We can identify Workload Groups that are orphaned, and should be cleaned up as they aren't used in any Specifications.

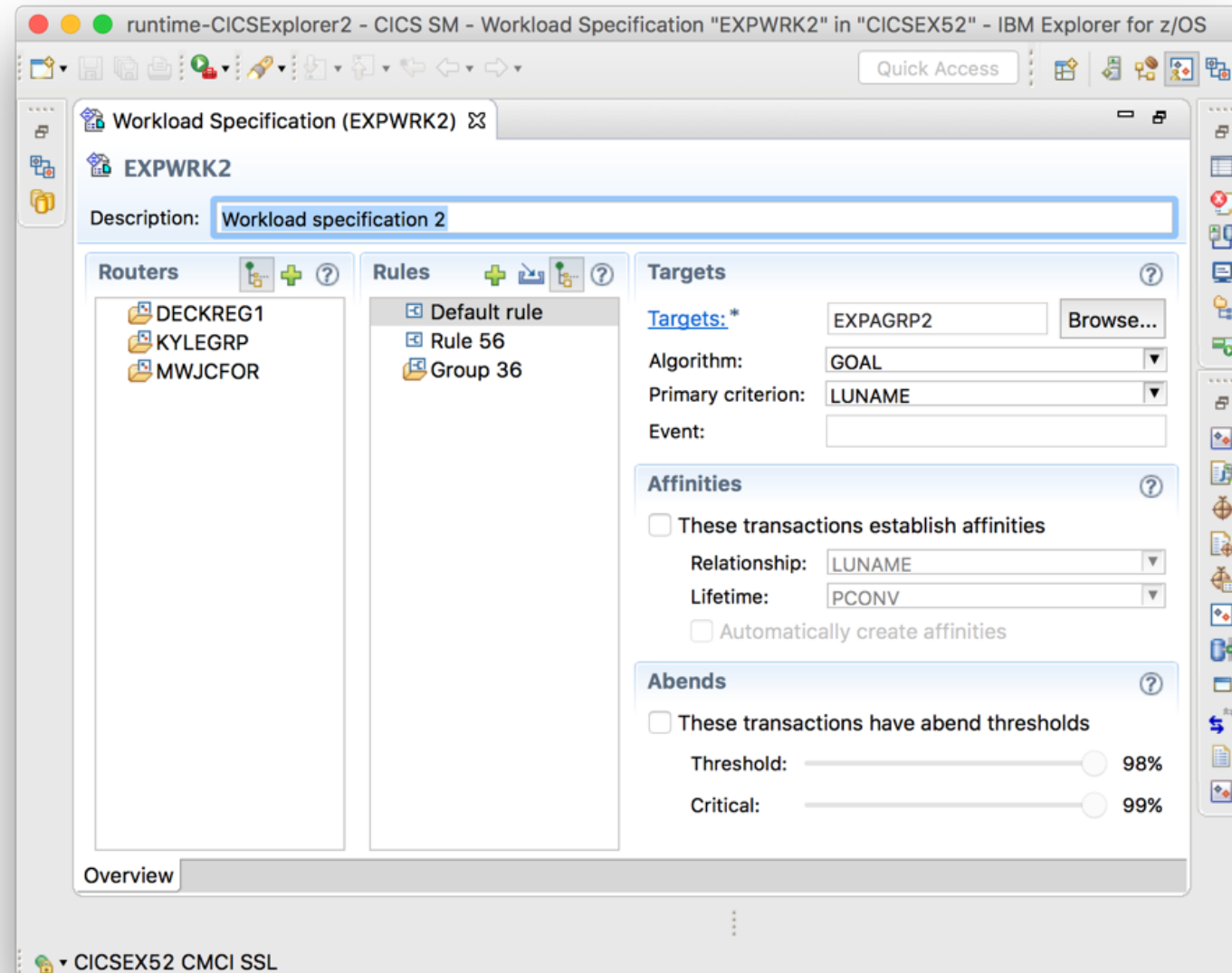


We can also see from the map that the Transaction Group is being used in another Workload Specification (TESTWLM) that isn't our intended CBANKWLD and DBANKWLD. This is likely the cause of our performance issues.

The GraphQL API server

- Aggregation in CICS Explorer relies on the new GraphQL API for CICS system management
- Query many types of CICS resources across CICSplexes in a single request.
- Can specify exactly what data it needs
- Explicitly expressed inherent relationships between CICS resources
- Must use CMCI JVM server

REST vs GraphQL: WLM Editor

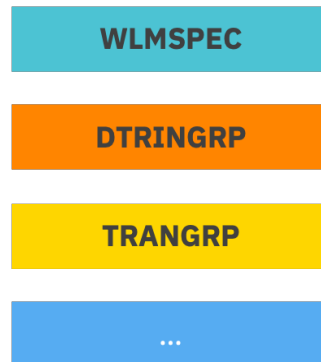
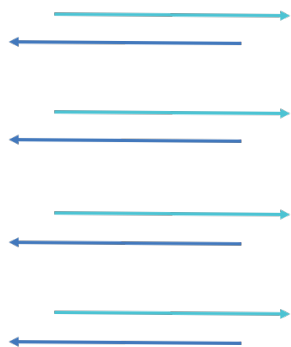


REST vs GraphQL: WLM Editor

CICS Explorer

Network

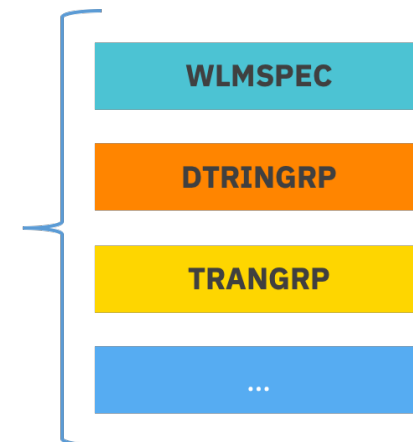
CMCI - REST API



CICS Explorer

Network

GraphQL API



The GraphQL API server

- This API is served by a component that is (currently) a separate install
- You can try this API out for yourself from the Open Beta site!
- Incorporate into your automation

- ☐ **CICS Transaction Server 5.5 Enablement Module**
cics55.lic.pax.Z (1MB)
- ☐ **CICS Transaction Server 5.5 Enablement Module Read Me**
[cics55.lic.readme.txt](#) (10KB)
- ☐ **CICS Transaction Server 5.5 Explorer for Windows**
cicsts55.explorer.windows.zip (300MB)
- ☐ **The CICS TS GraphQL API component**
cicsts_graphql_distribution.tar (6 MB)
- ☐ **CICS TS GraphQL API Release Notes**
[cicsts_graphql_distribution_release_notes.html](#) (1 MB)
- ☐ **CICS TS Program Directory**
[cicsts55.pgmdir.pdf](#) (1 MB)
- ☐ **CICS TS Activation Module Program Directory**
[cics55.lic.pgmdir.pdf](#) (1 MB)



```
1 # Welcome to GraphiQL
2 #
3 # GraphiQL is an in-browser tool for writing, validating, and
4 # testing GraphQL queries.
5 #
6 # Type queries into this side of the screen, and you will see intelligent
7 # typeaheads aware of the current GraphQL type schema and live syntax and
8 # validation errors highlighted within the text.
9 #
10 # GraphQL queries typically start with a "{" character. Lines that starts
11 # with a # are ignored.
12 #
13 # An example GraphQL query might look like:
14 #
15 #   {
16 #     field(arg: "value") {
17 #       subField
18 #     }
19 #   }
20 #
21 # Keyboard shortcuts:
22 #
23 #   Run Query:  Ctrl-Enter (or press the play button above)
24 #
25 #   Auto Complete:  Ctrl-Space (or just start typing)
26 #
27
28
```

GraphiQL

A GraphQL API call editor

You can use it too! Easiest way is via the
GraphiQL API Explorer:

<https://host:port/graphiql>

1
2
3

```
{  
  
}
```

| |
|--|
| cicsplex |
| cicsplexes |
| __schema |
| __type |
| CICSplexType Query an individual CICSplex in this environment |

Content assist

Use Ctrl+Space to discover what you can do



```
1 {  
2   cicsplexes {  
3     name  
4     regions {  
5       name  
6     }  
7   }  
8 }
```

```
{  
  "data": {  
    "cicsplexes": [  
      {  
        "name": "CICSEX55",  
        "regions": [  
          {  
            "name": "IYCWELW2"  
          },  
          {  
            "name": "IYCWELW1"  
          },  
          {  
            "name": "IYCWELH1"  
          },  
          {  
            "name": "IYCWELI1"  
          },  
          {  
            "name": "IYCWELJ1"  
          },  
          {  
            "name": "IYCWELK1"  
          },  
          {  
            "name": "IYCWELL1"  
          }  
        ]  
      },  
      {  
        "name": "DUMMY907",  
        "regions": []  
      }  
    ]  
  }  
}
```

Simple topology

Find all CICSplexes and their contained CICS regions


```

1 {
2   cicsplexes {
3     name
4     regions {
5       cicsResources {
6         loctran {
7           records {
8             name
9             program
10            installTime
11          }
12        }
13      }
14    }
15  }
16 }

```

```

{
  "data": {
    "cicsplexes": [
      {
        "name": "CICSEX55",
        "regions": [
          {
            "cicsResources": {
              "loctran": {
                "records": [
                  {
                    "name": "CADP",
                    "program": "DFHDBLU",
                    "installTime": "2018-10-05T10:42:55.000000Z"
                  },
                  {
                    "name": "CATA",
                    "program": "DFHZATA",
                    "installTime": "2018-10-05T10:42:55.000000Z"
                  },
                  {
                    "name": "CATD",
                    "program": "DFHZATD",
                    "installTime": "2018-10-05T10:42:55.000000Z"
                  },
                  {
                    "name": "CATR",
                    "program": "DFHZATR",
                    "installTime": "2018-10-05T10:42:55.000000Z"
                  },
                  {
                    "name": "CBAM",
                    "program": "DFHECBAM",
                    "installTime": "2018-10-05T10:42:55.000000Z"
                  },
                  {
                    "name": "CCIN",
                    "program": "DFHZCN1",

```

Resources

Find the attributes of the resources that you want,

```
1 {
2   cicsplexes {
3     name
4     regions {
5       cicsResources {
6         loctran (filter: {
7           name: {
8             value: "D*"
9           }
10        }) {
11          records {
12            name
13            program
14            installTime
15          }
16        }
17      }
18    }
19  }
20 }
```

Filtering

Filter by any attribute

```
{
  "data": {
    "cicsplexes": [
      {
        "name": "CICSEX55",
        "regions": [
          {
            "cicsResources": {
              "loctran": {
                "records": [
                  {
                    "name": "DSNC",
                    "program": "DFHD2CM1",
                    "installTime": "2018-10-05T10:42:55.000000Z"
                  }
                ]
              }
            }
          }
        ]
      },
      {
        "cicsResources": {
          "loctran": {
            "records": [
              {
                "name": "DSNC",
                "program": "DFHD2CM1",
                "installTime": "2018-10-05T10:43:01.000000Z"
              }
            ]
          }
        }
      },
      {
        "cicsResources": {
          "loctran": {
            "records": [
              {
                "name": "DSNC",
```

DEMO

Summary

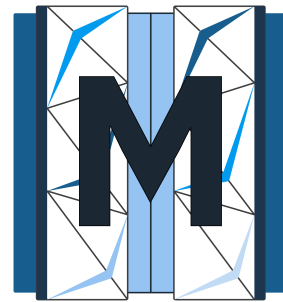
- CICS Explorer: What is it?
- What's New in CICS Explorer 5.4 CD
 - Security: smart card and MFA support
 - Quick filters
 - Customising and sharing views
 - And more!
- What's Even Newer: CICS Explorer 5.5
 - Aggregation and grouping
 - GraphQL API server
 - Mapping

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- .



MainframerZ *Meetup*

MainframerZ is a community of app devs, sys progs, and anyone else with an interest in Z Systems.

Join one of our events and get to know like-minded people who are also passionate about the mainframe - there will be plenty of pizza!

Join the group at ibm.biz/z-meetup-group

We want your feedback!

- Please submit your feedback online at
 - <http://conferences.gse.org.uk/2018/feedback/GF>
- Paper feedback forms are also available from the Chair person
- This session is GF

