

What's New in CA IDMS Since 19.0 GA?

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Agenda

- 1 CONTINUOUS DELIVERY & PORTFOLIO SIMPLIFICATION
- 2 IMPLEMENTED COMMUNITY IDEAS
- 3 INTEGRATION WITH OTHER PRODUCTS



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Continuous Delivery

- CA IDMS 19.0 was GA complete in August 2016
- Delivering enhancements as PTFs to CA IDMS 19.0
 - Updated documentation via DOCOPS
 - Developed, tested, and user validated via agile process
 - Increased value that is easy to deploy
- A deeper dive into what we've delivered since then



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Portfolio Simplification

- Most options now included in base product
 - Includes SQL, Server, and Web Services
 - Exceptions are Presspack and CA IDMS Performance Monitor
- Supported for both IDMS 18.5 and IDMS 19.0
 - CA IDMS 18.5 requires additional license keys
 - CA IDMS 19.0 enhancement RO96807 enables all new options
- CA IDMS installs all mainframe code with base software
 - No additional installation required
 - Download IDMS Server client code from CA support on-line
- To use components update RHDCPINT module



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Implemented Community Ideas

Implemented Community Ideas

zIIP Exploitation

- zIIP suspended instead of stopped when following loaded from unauthorized library (RO92366)
 - Database procedure
 - System mode SQL procedure
 - System mode user exit
- zIIP processing can be re-enabled without restarting CV if suspended due to CA IDMS nucleus module loaded from unauthorized library (RO93622)
- DCMT Vary ZIIP Online/OFFline

Implemented Community Ideas (cont.)

- Installation upgrade (RO93158)
 - During upgrade install, only dictionary entities that have been changed are updated
 - List of changed entities in CAGJSRC member IDDXI5J0
- DCPROFIL enhanced to display current SVC module (RO96512)

```

* CURRENT SVC *
SVC NUMBER (#SVCOPT): 172   CV NUMBER (CENTRAL VERSION #): 222
SVC NAME: IDMSMSVC   SVC COMPILE DATE: 20140806
SVC RELEASE: 19.0   SVC COMPILE TIME: 15.49
SVC FMID: CAGJJ00   SVC PTF: N/A

* SVC OPTIONS *
AUTHREQ: NO   CVKEY: UNSECURED
SMF: YES   SVCKLEN (ERE Extension length): 00112

* SVC CV TABLE *
CV LIST: 067 190 222

```



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Implemented Community Ideas (cont.)

- Range of the number of EREs to allocated at system startup changed from 0 to 255 to 0 to 1000 (RO93347)
- Calculating the number of TCEs enhanced to prevent over-allocating memory below the 16Mb line (RO93347)



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Implemented Community Ideas (cont.)

- Culprit enhanced to support Large Block Interface (LBI) for input and output files (RO95270)
- IDMSDMLC enhanced to support floating comments(*>) (RO96611)

```

DMLC0015  00582      READY EMP-DEMO-REGION *> WILL OBTAIN EMPLOYEE
           00583              USAGE-MODE IS RETRIEVAL.
           00584              MOVE 15 TO DML-SEQUENCE
           00585              CALL 'IDMS' USING SUBSCHEMA-CTRL
           00586              IDBMSCOM (37)
           00587              EMP-DEMO-REGION.
           00588      PERFORM IDMS-STATUS.
  
```



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Implemented Community Ideas (cont.)

- Batch ERUS job statistics enhanced to include job identifier, job name, accounting information (SO00360)
 - SMF Type 30 record content updated
 - New application monitor report
 - PMARPT21 Batch Job Accounting summary report

```

REPORT NO. 21      CA IIMS/PM 19.0      CAG320      CA IIMS/PM 19.0      CA IIMS/PM 19.0      CA IIMS/PM 19.0
CA SYSTEM VERSION #: 183      CA IIMS QUALITY ASSURANCE      BATCH JOB ACCOUNTING SUMMARY REPORT      DATA FROM: 6/14/17
TASK CODE      TASK NUM      TASK START DATE      TASK START TIME      TASK END DATE      TASK END TIME      JOBNAME      JOB NUMBER      ACCOUNTING INFORMATION
IIMSDDDL      33      8/14/17      8:47:48      8/14/17      8:47:48      THOJ024T      J0809499      1112000000.MAC
IIMSDDDL      34      8/14/17      8:47:52      8/14/17      8:47:53      THOJ024T      J0809700      1112000000.MAC
IIMSDDDL      35      8/14/17      8:47:56      8/14/17      8:47:56      THOJ024T      J0809701      1112000000.MAC
IIMSDDDL      36      8/14/17      8:48:01      8/14/17      8:48:01      THOJ024T      J0809702      1112000000.MAC
IIMSDDDL      37      8/14/17      8:50:21      8/14/17      8:50:21      THOJ024T      J0809703      1112000000.MAC
IIMSDDDL      38      8/14/17      8:52:17      8/14/17      8:52:17      THOJ024T      J0809708      1112000000.MAC
IIMSDDDL      39      8/14/17      8:52:22      8/14/17      8:52:22      THOJ024T      J0809709      1112000000.MAC
IIMSDDDL      40      8/14/17      8:52:26      8/14/17      8:52:26      THOJ024T      J0809710      1112000000.MAC
IIMSDDDL      41      8/14/17      8:52:30      8/14/17      8:52:30      THOJ024T      J0809711      1112000000.MAC
IIMSDDDL      42      8/14/17      8:52:34      8/14/17      8:52:34      THOJ024T      J0809712      1112000000.MAC
IIMSDDDL      43      8/14/17      8:59:37      8/14/17      8:59:38      THOJ024A      J0809719      1112000000.MAC
IIMSDDDL      44      8/14/17      8:59:41      8/14/17      8:59:41      THOJ024A      J0809720      1112000000.MAC
IIMSDDDL      45      8/14/17      8:59:45      8/14/17      8:59:45      THOJ024C      J0809721      1112000000.MAC
IIMSDDDL      46      8/14/17      8:59:49      8/14/17      8:59:49      THOJ024D      J0809722      1112000000.MAC
IIMSDDDL      47      8/14/17      8:59:52      8/14/17      8:59:52      THOJ024E      J0809723      1112000000.MAC
IIMSDDDL      48      8/14/17      9:07:01      8/14/17      9:07:01      THOJ024H      J0809724      1112000000.MAC
IIMSDDDL      49      8/14/17      9:45:03      8/14/17      9:45:03      THOJ024H      J0809742      1112000000.MAC
C750009 RECORDS WRITTEN FOR REPORT 21 --      24
  
```



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Implemented Community Ideas (cont.)

- IP address (IPv4 or IPv6) added to task statistic information (RO97013)
 - SMF Type 30 record content updated
 - New SREPORT 004 IDMS-DC Task Statistics by IP Address
 - New SREPORT 22 IDMS-DC Transaction Statistics by IP Address

```
REPORT NO. 04                                IDMS-DC TASK STATISTICS BY IP ADDRESS R19.0                                05/07/18 PAGE 1
SELECTED FROM: 00000 00:00                  TO: 00000 00:00
ACTUAL: 17065 14:02                        TO: 17065 14:03
CV JOB NAME: SUPST250
CV NUMBER: 250

IP ADDRESS: ::ffff:7f00:1

      2      NUMBER TASK EXECUTIONS
      2      NUMBER PROGRAMS CALLED          1      NUMBER PROGRAMS LOADED
      0      NUMBER TERMINAL READS           0      NUMBER TERMINAL WRITES
      0      NUMBER TERMINAL ERRORS          50      NUMBER GETSTG REQUESTS
      0      NUMBER GETSCR REQUESTS           0      NUMBER PUTSCR REQUESTS
      0      NUMBER DELSCR REQUESTS           0      NUMBER GETQUE REQUESTS
      0      NUMBER PUTQUE REQUESTS           0      NUMBER DELQUE REQUESTS
      56     NUMBER GETTIME REQUESTS          0      NUMBER SETTIME REQUESTS
      0      NUMBER DB SERVICES REQUESTS      0      NUMBER PAGES READ
```



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Integration with Other Products

Test Data Manager (TDM)

- Generates sophisticated sets of test data from relational databases for robust application testing
- CA TDM supports extracting and generating test data for an SQL database
- May not work with all network databases because of limitations of INSERT with SQL
- In order to access and generate data for some network records a table procedure must be written



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Test Data Manager (TDM) (cont.)

- Samples table procedures added to SAMPJCL show how to convert table procedures using DML to use SQL (RO97698)
- SQL Quick Bridge (Quick Bridge) generates table procedures using network DML syntax
- AGJCOVEN - 2 level, network
 - Generated by Quick Bridge
 - EMPLOYEE, COVERAGE
- AGJHOSPN - 3 level, network
 - Generated by Quick Bridge
 - EMPLOYEE, COVERAGE, HOSPITAL-CLAIM



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Test Data Manager (TDM) (cont.)

- AGJCOVEQ - 2 level
 - Converted to SQL
- AGJHOSPQ - 3 level
 - Converted to SQL
- DocOps details how to convert Quick Bridge generated table procedure to use SQL
 - Convert a Generated Table Procedure to Use SQL

Using CA Development Environment for z Systems with CA IDMS

Agenda

- 1 WHAT IS CA DEVELOPMENT ENVIRONMENT FOR Z SYSTEMS?
- 2 EDITING AND COMPILING CA IDMS PROGRAMS
- 3 EXPLORE CA IDMS DATABASE
- 4 SUMMARY



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What is CA Development Environment for z Systems?



CA Development Environment for z Systems

- It is a CA branded version of IBM Developer for z System
- Eclipse-based Integrated Development Environment
- Allows you to Edit and Build z/OS applications
- Bundled with CA plugins
 - CA Endevor SCM
 - CA Intertest
 - CA Mainframe Application Tuner
 - CA FileMaster Plus
 - CA SymDump



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CA IDMS Use Cases

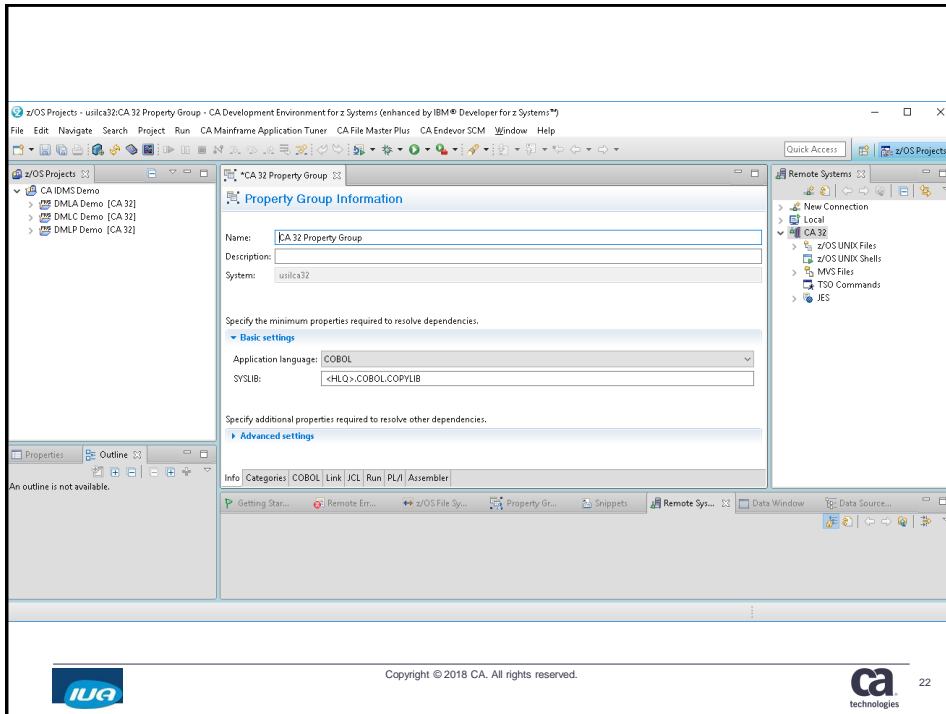
- Editing and compiling CA IDMS programs
 - COBOL, PL/I and Assembler
- Explore CA IDMS Databases
 - SQL and Network defined



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Editing and compiling CA IDMS programs

Sample REXX Exec Programs

- Provide Sample REXX execs
 - IDMSEMLC and IDMSEMLP
 - Tailor this to your specific environment
 - RO98318
- Invokes the IDMS preprocessor
- Able to recognize DML commands for COBOL and PL/1 programs on your text editor



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CA Development Environment for z Systems (enhanced by IBM® Developer for z Systems)

File Edit Source Refactor Navigate Search Project Run CA Mainframe Application Tuner CA File Master Plus CA Endeavor SCM Window Help

z/OS Projects: CA32\LEESON\LEESON.CADEZ\COBOL\ACSTATC.chl

CA32 Property Group: ACSTATC.chl

```

*RETRIEVAL
*NO-ACTIVITY-LOG
*DLTEST
IDENTIFICATION DIVISION.
PROGRAM-ID. ACSTAT.
ENVIRONMENT DIVISION.
IDMS-CONTROL SECTION.
PROTOCOL. NODE IS IDMS-DC BEGDS
IDMS-RECORDS WITHIN WORKING-STORAGE.

DATA DIVISION.
SCHEMA SECTION.
DB EMP001 WITHIN EMP001M VERSION 100.

WORKING-STORAGE SECTION.

01 MISC-WORK-FIELDS.
02 RECORD-COUNT PIC 99(2) VALUE IS +1.
02 DNAME-FIELD PIC X(8).
02 FIRST-TIME-SWITCH PIC X(1) VALUE IS '0'.
02 STAT-TYPE PIC X(25) VALUE IS SPACES.

01 WE-EMP-NAME.
02 WE-EMP-LAST-NAME PIC X(15).
02 WE-EMP-FIRST-NAME PIC X(10).
02 FILLER PIC X(211).

01 COPY IDMS DB-STATISTICS.
  
```

Subsystem JES

Resource	Parent filter	Parent filter	Number of f...	Connection...
Retrieved Jobs	CN-CA32-c...	Not applica...	1	Yes
My Jobs1	newms02-F...	Not applica...	1	No
Active Jobs	newms02-F...	Not applica...	1	No

Connection: CA32 - Host name: USLCA32 - Description: CA32

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File Edit Source Refactor Navigate Search Project Run CA Mainframe Application Tuner CA File Master Plus CA Endeavor SCM Window Help

z/OS Projects: CA 32/LEES01/LEES01.CADEZ.COBOL/ACCSTAT2.cbl

CA 32 Property Group ACCSTAT2.cbl

```

PERFORM IDMS-STATUS.
READY EMP-DEMO-REGION USAGE-MODE IS RETRIEVAL.
READY INS-DEMO-REGION USAGE-MODE IS RETRIEVAL.
PERFORM IDMS-STATUS.
MOVE 'RETRIEVAL-STATISTICS' TO STAT-TYPE.
MOVE '0' TO FIRST-TIME-SWITCH.
PERFORM B010-EMPLOYEE-LOOP THRU B999-EMPLOYEE-EXIT.
PERFORM C010-INDEX-FIND THRU C999-INDEX-EXIT.
PERFORM D010-STATISTICS THRU D999-STATISTICS-EXIT.
FINISH.
GOBACK.

B010-EMPLOYEE-LOOP SECTION.
IF FIRST-TIME-SWITCH = '0'
  MOVE '1' TO FIRST-TIME-SWITCH
  OBTAIN FIRST EMPLOYEE WITHIN EMP-DEMO-REGION
ELSE
  OBTAIN NEXT EMPLOYEE WITHIN EMP-DEMO-REGION.
IF ESR08-STATUS = '0000'
  GO TO B999-EMPLOYEE-EXIT
ELSE
  PERFORM IDMS-STATUS.
  GO TO B010-EMPLOYEE-LOOP.

B999-EMPLOYEE-EXIT.
EXIT.

C010-INDEX-FIND SECTION.
  
```

Subsystem RES

Resource	Parent filter	Parent filter	Number of f...	Connection...
Retrieved Jobs	CN-CA 32-c...	Not applic...	1	Yes
My Jobs	neema02-F1...	Not applic...	1	No
Active Jobs	neema02-F1...	Not applic...	1	No

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z/OS Projects: CA 32/LEES01/LEES01.CADEZ.COBOL/ACCSTAT2.cbl

CA 32 Property Group ACCSTAT2.cbl

```

PERFORM IDMS-STATUS.
READY EMP-DEMO-REGION USAGE-MODE IS RETRIEVAL.
READY INS-DEMO-REGION USAGE-MODE IS RETRIEVAL.
PERFORM IDMS-STATUS.
MOVE 'RETRIEVAL-STATISTICS' TO STAT-TYPE.
MOVE '0' TO FIRST-TIME-SWITCH.
PERFORM B010-EMPLOYEE-LOOP THRU B999-EMPLOYEE-EXIT.
PERFORM C010-INDEX-FIND THRU C999-INDEX-EXIT.
PERFORM D010-STATISTICS THRU D999-STATISTICS-EXIT.
FINISH.
GOBACK.

B010-EMPLOYEE-LOOP SECTION.
IF FIRST-TIME-SWITCH = '0'
  MOVE '1' TO FIRST-TIME-SWITCH
  OBTAIN FIRST EMPLOYEE WITHIN EMP-DEMO-REGION
  OBTAIN FIRST EMPLOYEE WITHIN EMP-DEMO-REGION
  MOVE 0 TO SCH01 SCH02 SCH03 SCH04
  MOVE 6 TO DML-SEQUENCE
  CALL 'IDMS001' USING SUBSCHEMA-CTRL
  IDMS001 (19)
  SR415
  EMP-DEMO-REGION
  IDMS001 (43)
  PERFORM IDMS-STATUS.
  
```

Subsystem RES

Resource	Parent filter	Parent filter	Number of f...	Connection...
Retrieved Jobs	CN-CA 32-c...	Not applic...	1	Yes
My Jobs	neema02-F1...	Not applic...	1	No
Active Jobs	neema02-F1...	Not applic...	1	No

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CA 32 Property Group: PLEMPB.ppl

```

/* PROCESSING FOLLOWS */
/* OPEN THE FILES */
/* INFILE -- INPUT */
/* OUTFILE -- OUTPUT */
/* SYSPRINT -- USED BY IDMS_STATUS */

OPEN FILE (INFILE);
OPEN FILE (OUTFILE);
OPEN FILE (SYSPRINT);
ON INFILE (INFILE) EOF = YES;
/* TESTING CICS FOR CADEZ - LEESOT */
SCREEN_MESSAGE = 'TESTING CICS';
EXEC CICS SEND TEXT FROM(SCREEN_MESSAGE) LENGTH(40) FREEKB ERASE;
/* BIND RUN UNIT AND RECORDS EXPLICITLY */
SUBSCHEMA_CTRL_PROGRAM = 'DUD1';

BIND RUN UNIT;
CALL IDMS_STATUS;
BIND RECORD (EMPLOYEE);
CALL IDMS_STATUS;
BIND RECORD (DEPARTMENT);
CALL IDMS_STATUS;
READY;
CALL IDMS_STATUS;
READ FILE (INFILE) INTO (DEPT_IN_REC);
DO UNTIL (EOF);
DEPT_IN_REC = NO;
DEPT_IN_REC = DEPT_IN_REC;
OBTAIN CALC RECORD (DEPARTMENT);
/* D326 REARS */
/* DEPT NOT FOUND */
IF ERROR_STATUS = '0326' THEN CALL NO_DEPT;
ELSE

```

Properties: NO, EOF, 1 PROGRAM_FLAGS, INFILE, OUTFILE, SYSPRINT, 1 DEPT_IN_REC, 1 DEPT_OUT_REC, 1 PRINT_AREA, 1 SPACES, 1 CONTROL_CHARACTERS, SCREEN_MESSAGE, ON ENDFILE, NEW DEPT.PROC.

Subsystem: JES, Resource: CN-CA 32-com.ibm.zos.jes, Parent Filter: Not applicable, Number of filter strings: 1, Connection-private: Yes.

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CA 32 Property Group: PLEMPB.ppl

```

/* PROCESSING FOLLOWS */
/* OPEN THE FILES */
/* INFILE -- INPUT */
/* OUTFILE -- OUTPUT */
/* SYSPRINT -- USED BY IDMS_STATUS */

OPEN FILE (INFILE);
OPEN FILE (OUTFILE);
OPEN FILE (SYSPRINT);
ON INFILE (INFILE) EOF = YES;
/* TESTING CICS FOR CADEZ - LEESOT */
SCREEN_MESSAGE = 'TESTING CICS';
EXEC CICS SEND TEXT FROM(SCREEN_MESSAGE) LENGTH(40) FREEKB ERASE;
/* BIND RUN UNIT AND RECORDS EXPLICITLY */
SUBSCHEMA_CTRL_PROGRAM = 'DUD1';

BIND RUN UNIT;
CALL IDMS_STATUS;
BIND RECORD (EMPLOYEE);

BIND RECORD (EMPLOYEE);

/* IDMS PL/I DML EXPANSION */
DO;
SUBSCHEMA_CTRL_DML_SEQUENCE=2;
CALL IDMS (SUBSCHEMA_CTRL,
,TDMSCORE (48)
,EMPLOYEE
,EMPLOYEE

IF ERROR_STATUS = '0326' THEN CALL NO_DEPT;
ELSE

```

Properties: NO, EOF, 1 PROGRAM_FLAGS, INFILE, OUTFILE, SYSPRINT, 1 DEPT_IN_REC, 1 DEPT_OUT_REC, 1 PRINT_AREA, 1 SPACES, 1 CONTROL_CHARACTERS, SCREEN_MESSAGE, ON ENDFILE, NEW DEPT.PROC.

Subsystem: JES, Resource: CN-CA 32-com.ibm.zos.jes, Parent Filter: Not applicable, Number of filter strings: 1, Connection-private: Yes.

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What is a Property Group?

- Named sets of property values
- Where you define resource properties
- Can be shared and reused among projects, systems, and users
- Once defined, can be applied to the z/OS projects and resources you create on that system
- Helps maintain consistency in your development and build environment



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CA 32 Property Group - CA Development Environment for z/Systems (enhanced by IBM® Developer for z/Systems™)

File Edit Navigate Search Project Run CA Mainframe Application Tuner CA File Master Plus CA Endevor SCM Window Help

z/OS Projects: CA IDMS Demo, DMLA Demo [CA 32], DMLC Demo [CA 32], LEEESDI.CADEZ.COBL, ACCSATC.cbl, WREAME.cbl, BRIGITTE.cbl, COMBAND.cbl, DZCCOBL.cbl, DMSIMC2.cbl, JOLCOB.cbl, LEEESDI.CADEZ.GENCL, LEEESDI.CADEZ.OUTPUT, DMLP Demo [CA 32]

COBOL Settings

Runtime Environments: Procedures and Steps, Local Compiler Options, Local Preprocessor, JCL Substitution, Editor Configuration

Editor Configuration

Search Libraries: Called program search libraries: Set DYL01 properties

Preprocessor Integration: Select which preprocessor configuration to use when identifying preprocessor statements in an editor. Use local preprocessors, Use remote preprocessors

Remote preprocessor configuration: REDX or CLIST invoking preprocessor: LEEESDI.CLIST(DMSIMC2), Preprocessor output location: LEEESDI.CADEZ.DMLC.DVSPCH, High-level qualifier for preprocessor data: LEEESDI, Preprocessor parameters: DVSIMLSLEEESDI.CADEZ.DVSIMS DYLSTLLEEESDI.CADEZ.DMLC.DVLIST

Info Categories: COBOL Link JCL Run PL/I Assembler

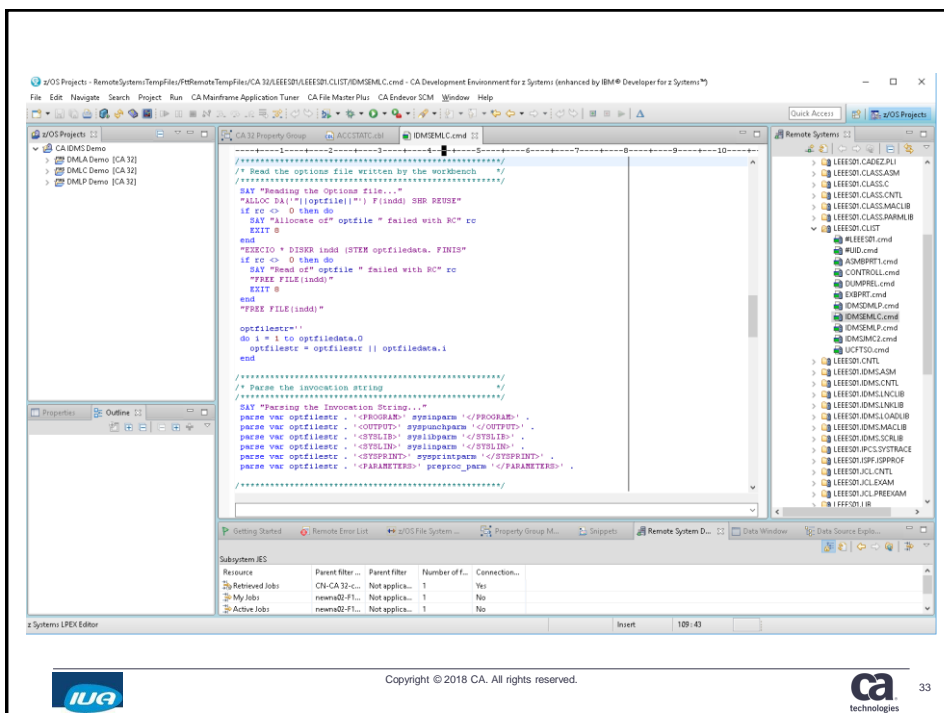
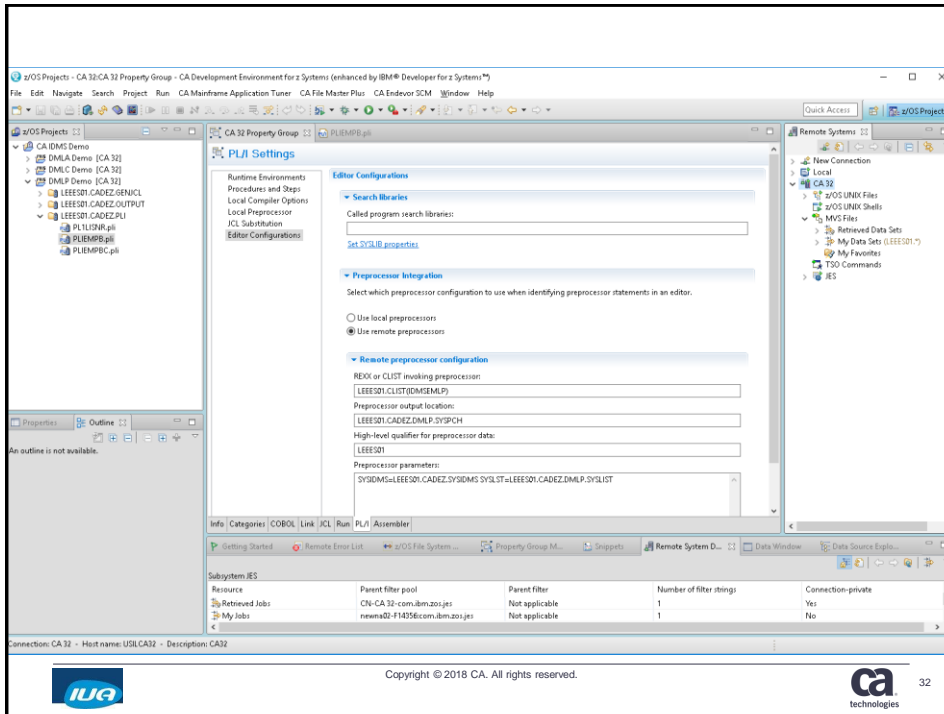
Getting Started Remote Error List z/OS File System Property Group Snippets Remote System Data Window Data Source Explorer

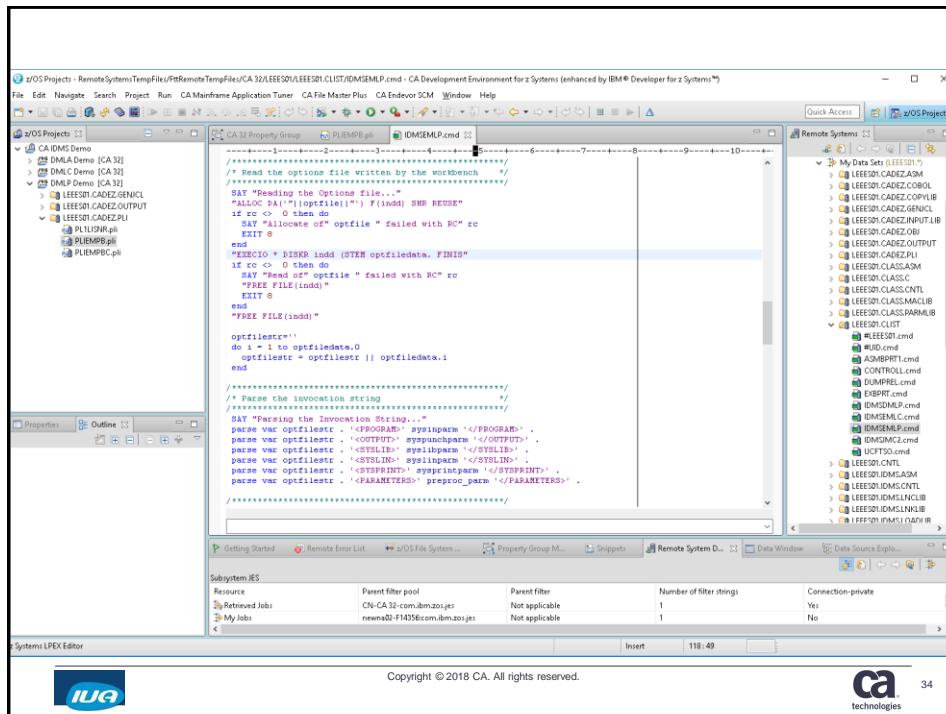
Subsystem JES

Resource	Parent filter	Parent filter	Number of f...	Connection...
Retrieved jobs	CN-CA 32-c...	Not applica...	1	Yes
My Jobs	newma20-F1...	Not applica...	1	No
Active Jobs	newma20-F1...	Not applica...	1	No

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Sample JCL Procedure Programs

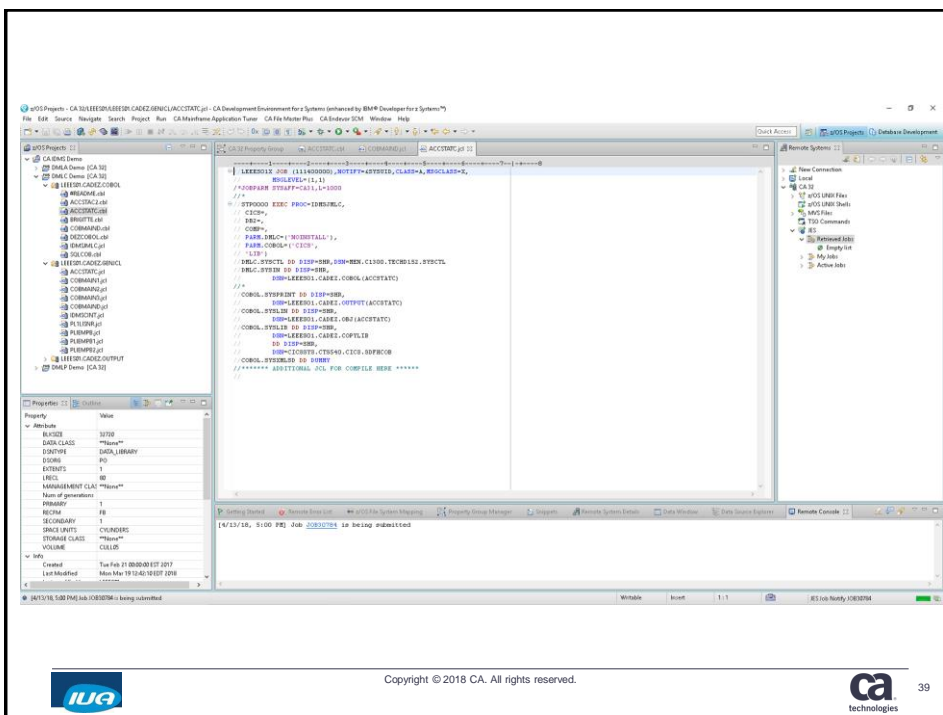
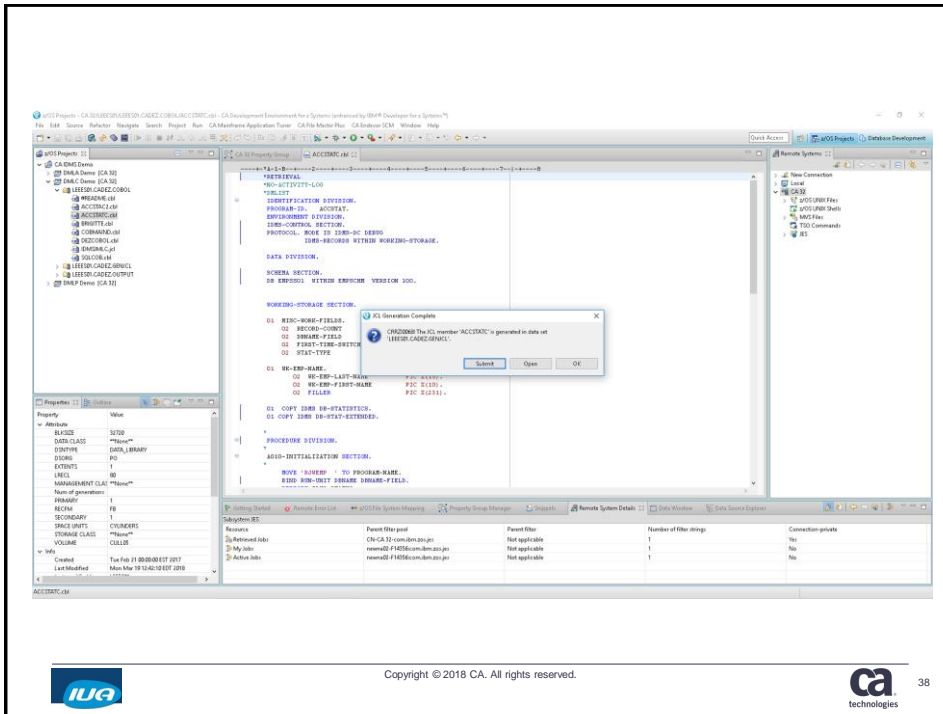
- Provide JCL Procedure Programs
 - IDMSJMLC, IDMSJMLP and IDMSJMLA
 - RO98318
- Generated JCL is set up to call the JCL procedures
 - Calls the IDMS pre-compiler and compiler

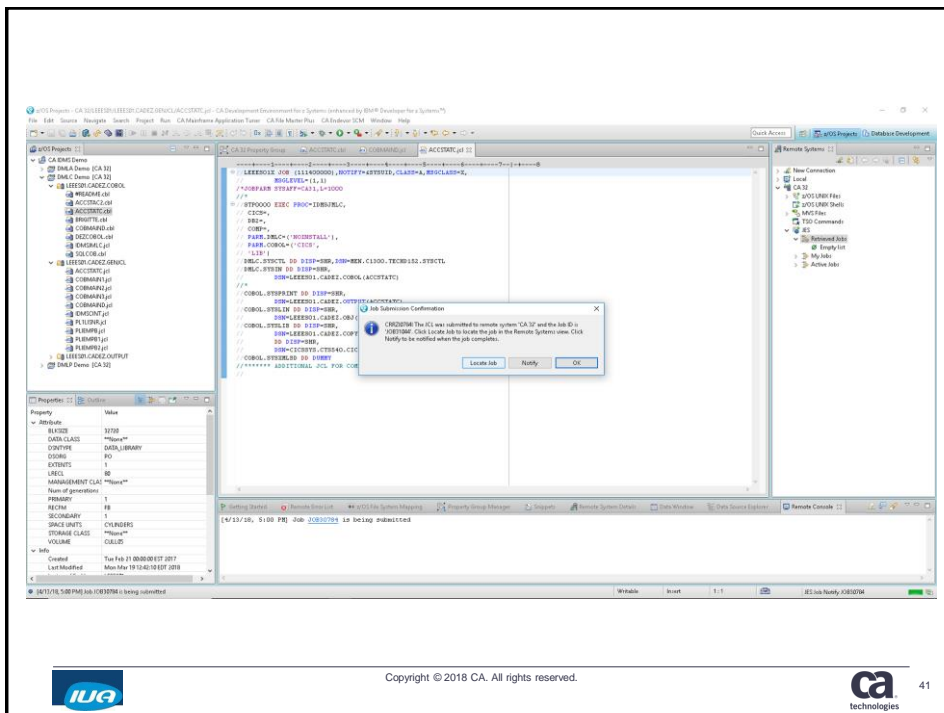
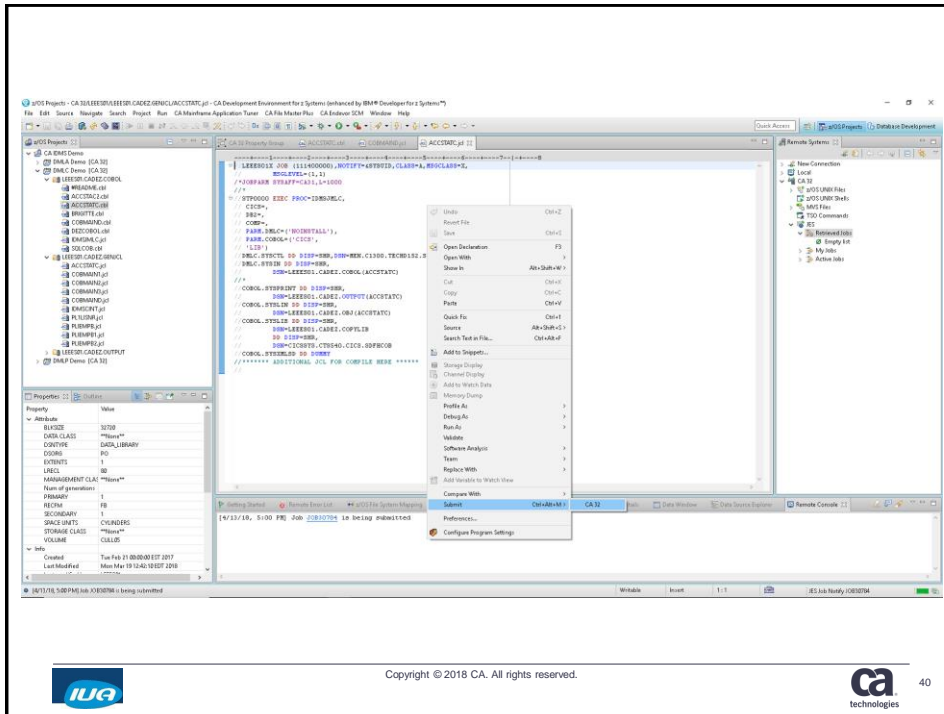
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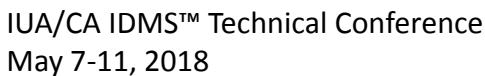
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File Edit Navigate Search Project Run CA Mainframe Application Tuner CA File Master Plus CA Endevor SCM Window Help

z/OS Projects CA 32 Property Group

CA 32 Property Group

PL/I Settings

Runtime Environment
Procedures and Steps
Local Preprocessor
JCL Substitution
Editor Configurations

Procedures and Steps

Procedure No...	Step Name	Status
ELAVFPL		Disabled
ELAVFPLT		Disabled
IDMSMPL		Enabled
DMLP		
PLI		

Step options

Get Data Sets

Info Categories COBOL Link JCL Run PL/I Assembler

Getting Started Remote Error List z/OS File System Property Group M... Snippets Remote System D... Data Window Data Source Expl...

Subsystem JES

Resource	Parent filter pool	Parent filter	Number of filter strings	Connection-private
Retrieved Jobs	CN-CA 32-com.ibm.zos.jes	Not applicable	1	Yes
My Jobs	newnq2-F14356com.ibm.zos.jes	Not applicable	1	No

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z/OS Projects CA 32 Property Group

CA 32 Property Group

Assembler Settings

Procedures and Steps
JCL Substitution
Editor Options

Procedures and Steps

Procedure No...	Step Name
IDMSDMLA	
DMLA	
ASM	

Step options

Get Data Sets

Info Categories COBOL Link JCL Run PL/I Assembler

Getting Started Remote Error List z/OS File System Property Group M... Snippets Remote System D... Data Window Data Source Expl...

Subsystem JES

Resource	Parent filter pool	Parent filter	Number of filter strings	Connection-private
Retrieved Jobs	CN-CA 32-com.ibm.zos.jes	Not applicable	1	Yes
My Jobs	newnq2-F14356com.ibm.zos.jes	Not applicable	1	No

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User Macro File

- Macro definitions for the HLAsm parser (RO99485)
- For Assembler programs only
- Release 19.0, member "IDMSUMAC"



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User Macro File - Benefits

- Editor recognizes IDMS DML Assembler Macros
- Content assist
- Syntax checking



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IDMSUMAC – XML User Macro File

Dataset: yourprefix.CAGJSRC(IDMSUMAC)

```
<?xml version="1.0" encoding="UTF-8"?>
<hlasmDat version="1.0" xmlns="http://www.ibm.com/xmlns/hlasmDat"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation:
    <macroInstruction>
      <name>#ABEND</name>
      <override>ADD</override>
      <macroParameters>
        <unspecifiedParameters>false</unspecifiedParameters>
        <keywordParameter>
          <name>ABCODE</name>
          <required>true</required>
          <ID>0</ID>
          <repeatNumber>1</repeatNumber>
          <isBracketList>false</isBracketList>
          <keywordValues>
            <anyValue>true</anyValue>
          </keywordValues>
        </keywordParameter>
        <keywordParameter>
          <name>DUMP</name>
          <required>false</required>
          <ID>1</ID>
          <repeatNumber>1</repeatNumber>
          <isBracketList>false</isBracketList>
          <keywordValues>
            <anyValue>true</anyValue>
          </keywordValues>
        </keywordParameter>
      </macroParameters>
    </macroInstruction>
```



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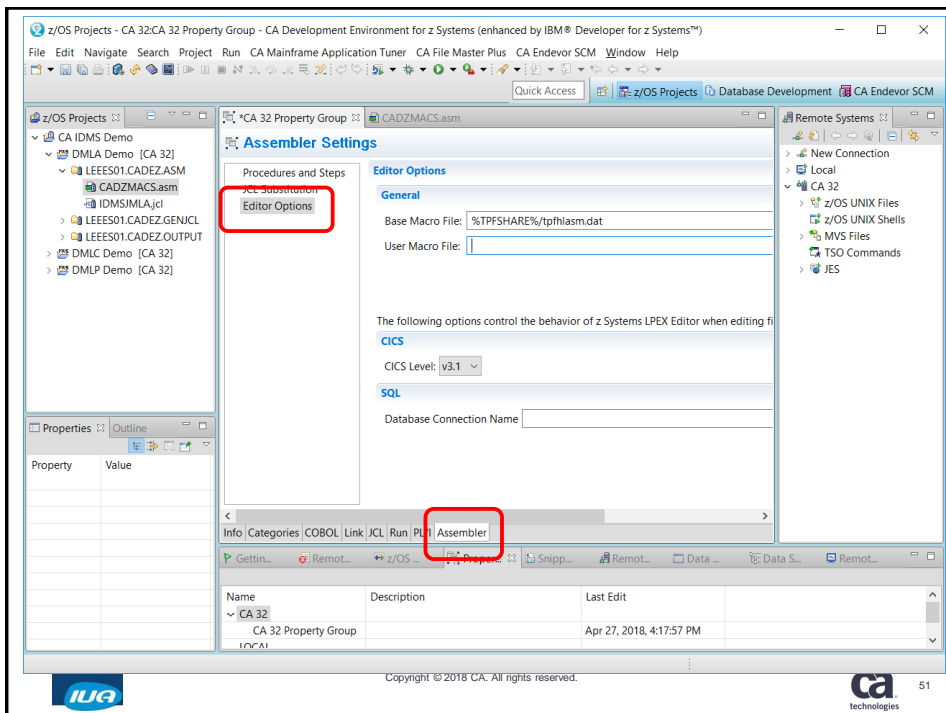
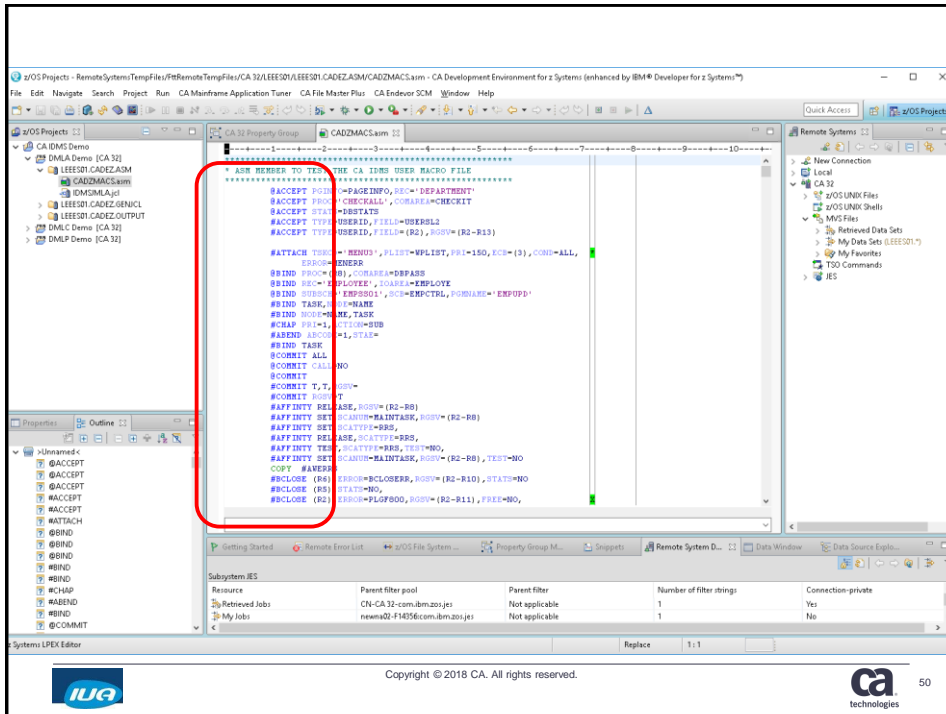
The screenshot displays the CA Development Environment for z Systems. The main window shows the file CADZMACS.asm, which is an XML User Macro File. The file content includes macro definitions for #ABEND, #DUMP, #ATTACH, #BIND, #CHAP, #ABEND, #BIND, #COMMIT, and #COMMIT. The file is highlighted with a red box. The left pane shows the project structure, and the right pane shows the remote systems. The bottom pane shows the properties of the file, including its name, description, and last edit date.

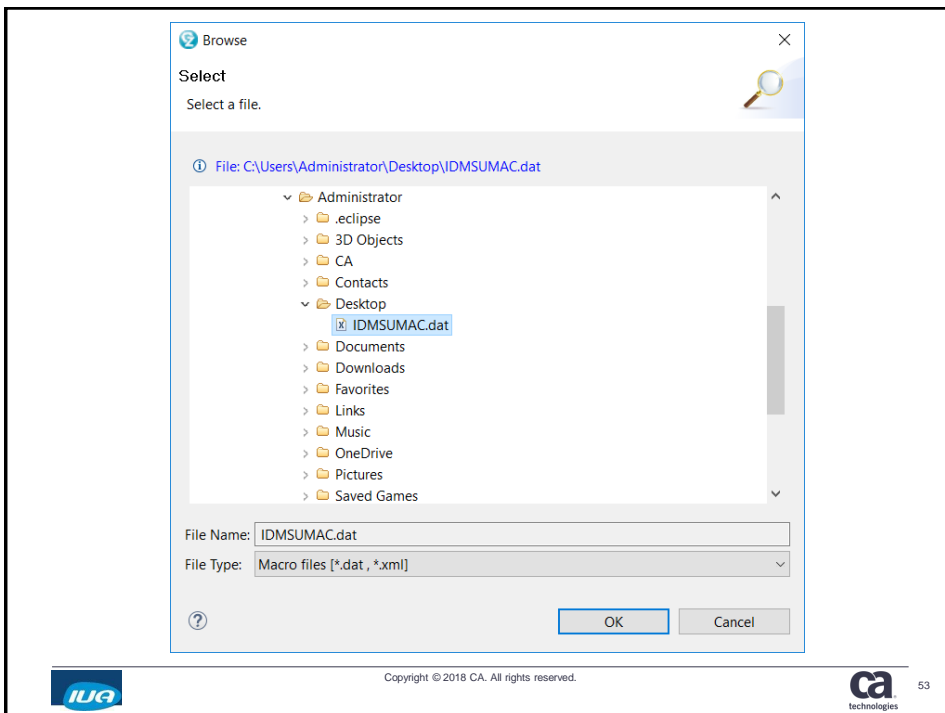
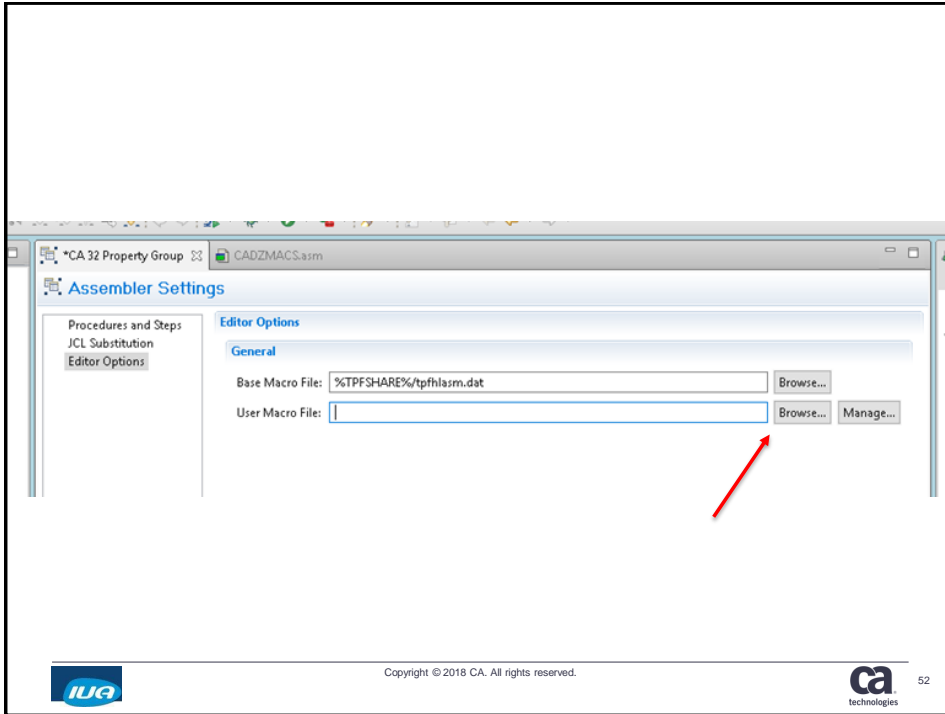


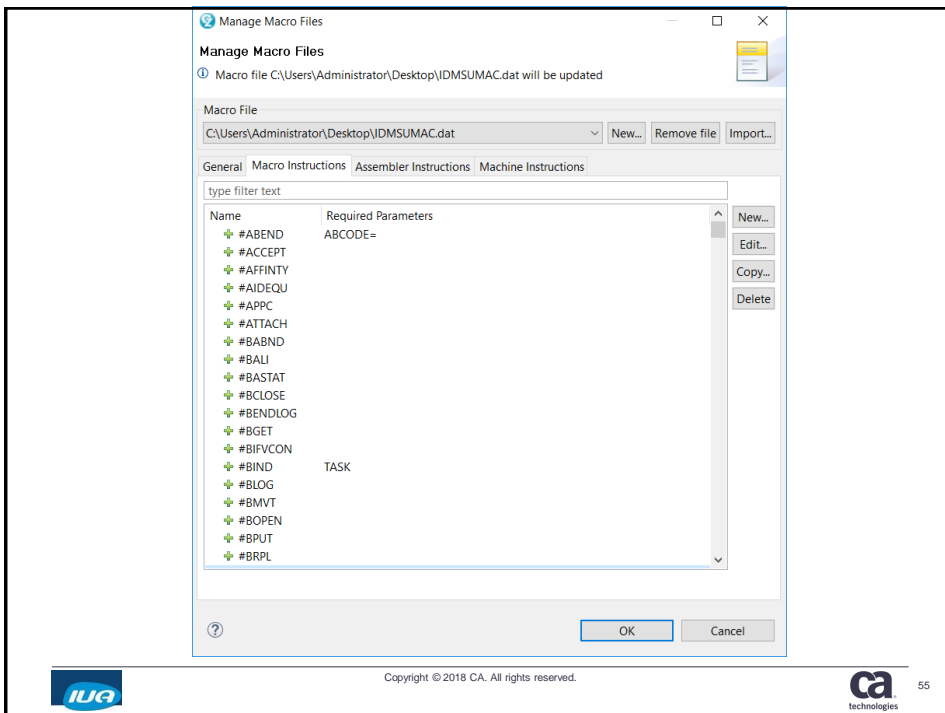
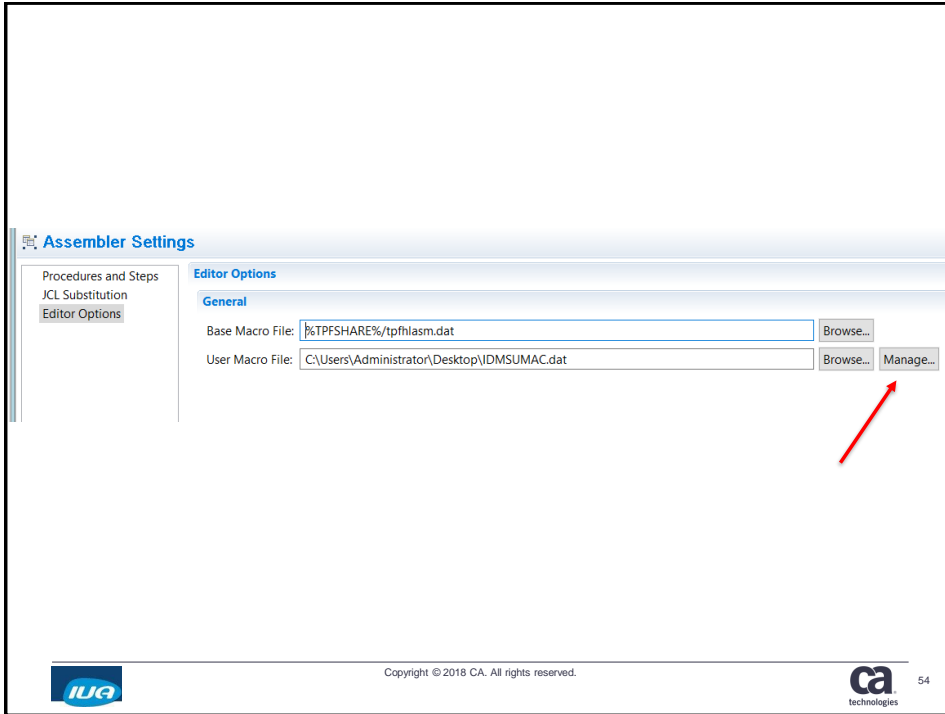
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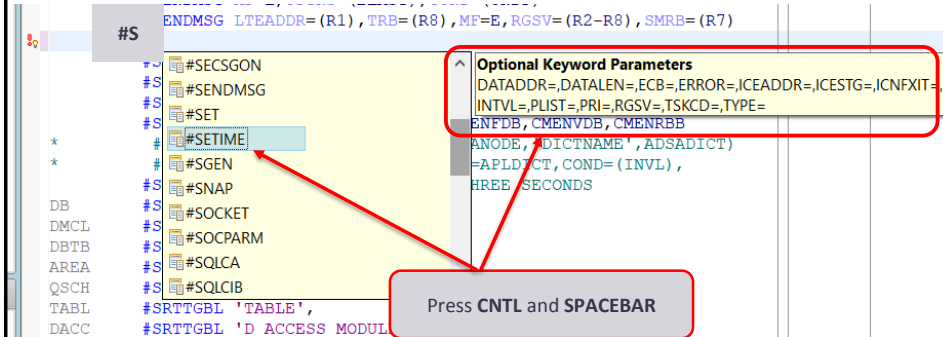
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Content Assist



Editing and Compiling CA IDMS Programs

- Property Groups
 - REXX Execs
 - JCL Procedures
 - User Macro File
- Go to DOCOPS!
 - Administrating>Integration with CA Development Environment for z Systems

<https://docops.ca.com/ca-idms/19/en/administrating/integration-with-ca-development-environment-for-z-systems>

Explore CA IDMS Database



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Explore CA IDMS Databases

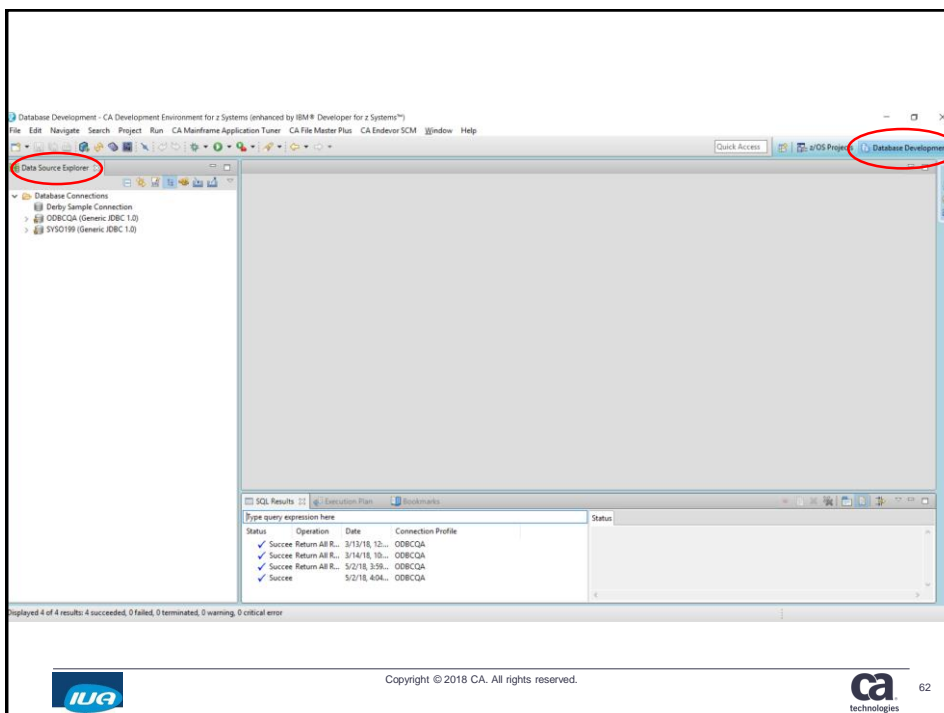
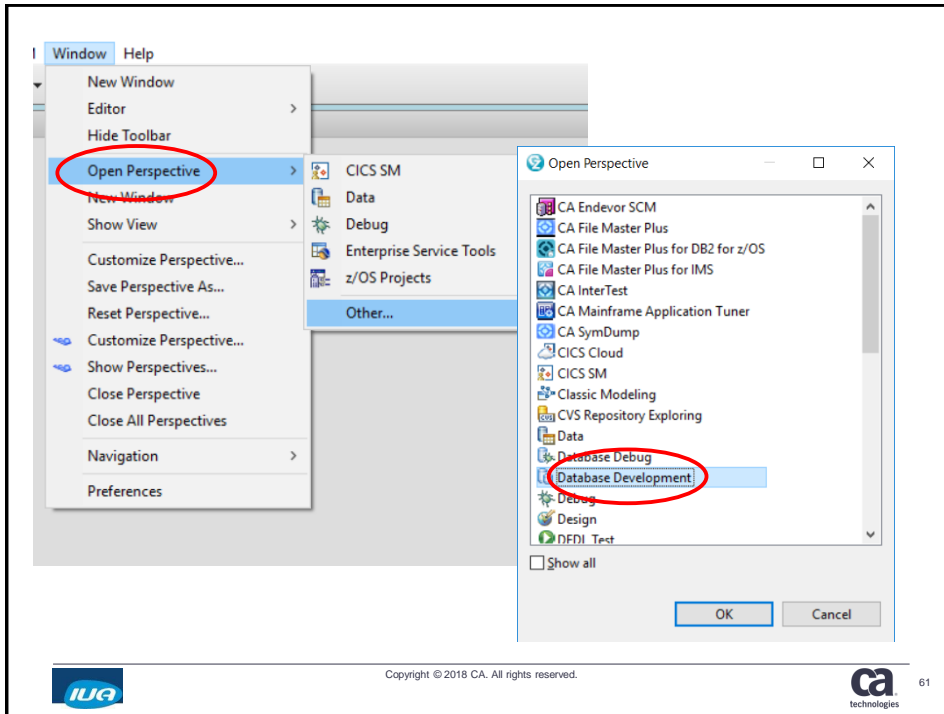
- Database Development Perspective
- Data Source Explorer
- Discover and query Databases
 - Uses CA IDMS JDBC Driver
 - Access SQL & Network defined databases
 - View all your Catalogs, Dictionaries, Schemas and Tables

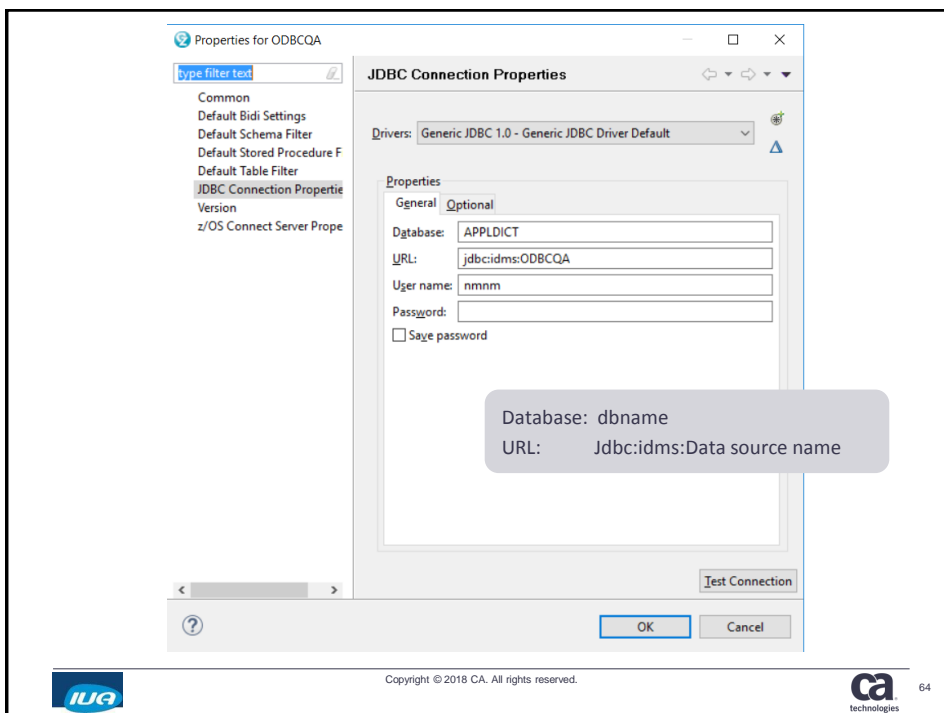
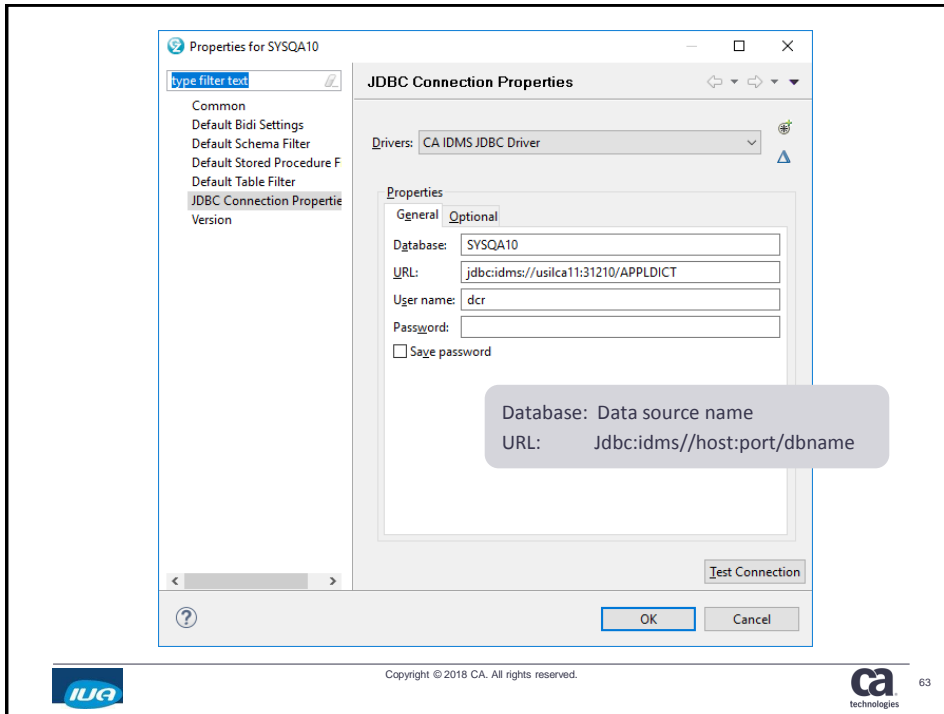


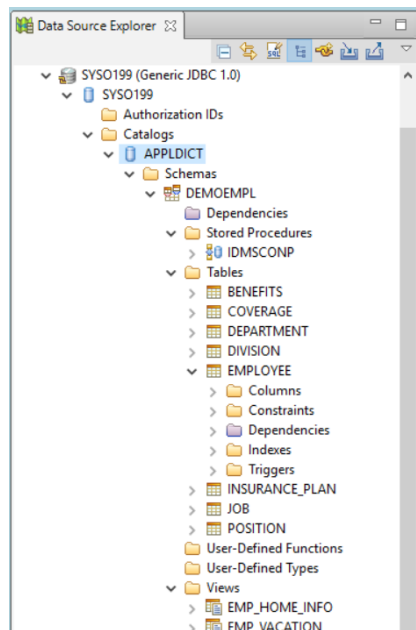
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- APPLDICT
 - Schemas
 - (Expand) DEMOEMPL
 - Dependencies
 - Stored Procedures
 - Tables
 - User-Defined Functions
 - User-Defined Types
 - Views

Data Source Explorer

The screenshot shows the Data Source Explorer window with a tree view of database connections. The 'SYSO199' connection is expanded, showing 'Authorization IDs', 'Catalogs', and 'Schemas'. The 'DEMO' schema is selected, and a context menu is open with options like 'Generate DDL...', 'Analyze Impact...', 'Analyze Model', 'Compare With', 'Copy', and 'Refresh'.

- Generate DDL
- Compare to another

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Generate DDL

The screenshot shows the 'Generate DDL' dialog box with the 'Save and Run DDL' tab selected. It prompts the user to specify a path to save the generated DDL script. The 'Folder' is set to '_endevorpackages' and the 'File name' is 'Script.sql'. The 'Preview DDL' section shows the generated SQL code for creating two tables: 'INSURANCE_PLAN' and 'COVERAGE'.

```

--ScriptOptions statementTerminator=';'-->
CREATE TABLE INSURANCE_PLAN (
  PLAN_CODE CHAR(3) NOT NULL,
  COMP_NAME CHAR(40) NOT NULL,
  STREET CHAR(40) NOT NULL,
  CITY CHAR(20) NOT NULL,
  STATE CHAR(2) NOT NULL,
  ZIP_CODE CHAR(9) NOT NULL,
  PHONE CHAR(10) NOT NULL,
  GROUP_NUMBER NUMERIC(4, 0) NOT NULL,
  DEDUCT DECIMAL(9, 2),
  MAX_LIFE_BENEFIT DECIMAL(9, 2),
  FAMILY_COST DECIMAL(9, 2),
  DEP_COST DECIMAL(9, 2),
  EFF_DATE DATE NOT NULL
);

CREATE TABLE COVERAGE (
  PLAN_CODE CHAR(3) NOT NULL,
  EMP_ID NUMERIC(4, 0) NOT NULL,
  SELECTION_DATE DATE NOT NULL,
  TERMINATION_DATE DATE,
  NUM_DEPENDENTS NUMERIC(2, 0) NOT NULL
);
  
```

Statement termination: ;

☐ Run DDL on server
☐ Open DDL file for editing

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Item	SYSO199:SYSO199.DEMOEMPL	SYSO199:SYSO199.DEMOEMPL2
Schema	<Schema> DEMOEMPL	<Schema> DEMOEMPL2
name	DEMOEMPL	DEMOEMPL2
Table	<Table> BENEFITS	<Table> BENEFITS
Foreign Key	<Foreign Key> EMP_BENEFITS	
Column Order	FISCAL_YEAR, EMP_ID, VAC_ACCR...	BONUS_AMOUNT, COMP_ACCRU...
Table	<Table> COVERAGE	<Table> COVERAGE
Foreign Key	<Foreign Key> EMP_COVERAGE	
Foreign Key	<Foreign Key> INSPLAN_COVE...	
Column Order	PLAN_CODE, EMP_ID, SELECTION_...	EMP_ID, NUM_DEPENDENTS, PLA...
Table	<Table> DEPARTMENT	
Table	<Table> DIVISION	
Table	<Table> EMPLOYEE	<Table> EMPLOYEE
Table	<Table> INSURANCE_PLAN	
Table	<Table> JOB	
Table	<Table> LRD_EMPLOYEE	
Table	<Table> POSITION	

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Database Development - HostConnectProjectFiles/CA32.hce - CA Development Environment for z Systems (enhanced by IBM® Developer for z Systems™)

File Edit Navigate Search Project Run CA Mainframe Application Tuner CA File Master Plus CA Endevor SCM Window Help

Quick Access z/OS Projects CA Endevor SCM Data Remote System Explorer Database Development

Data Source Explorer

- SYSDAT10
 - Authorization IDs
 - Catalogs
 - APPLDICT
 - Schemas
 - DBCRSOLS
 - DEMOEMPL
 - DEMOPROJ
 - NET
 - Dependencies
 - Stored Procedures
 - Tables
 - COVERAGE
 - DENTAL-CLAIM
 - DEPARTMENT
 - EMPLOYEE
 - EMPOSITION
 - EXPERTISE
 - HOSPITAL-CLAIM
 - INSURANCE-PLAN
 - JOB
 - NON-HOSP-CLAIM
 - OFFICE
 - SKILL
 - STRUCTURE
 - User-Defined Functions
 - User-Defined Types
 - Views

0 items selected

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File Edit Navigate Search Project Run CA Mainframe Application Tuner CA File Master Plus CA Endevor SCM Window Help

Quick Access z/OS Projects CA Endevor SCM Data Remote System Explorer Database Development

Data Source Explorer

- Stored Procedures
- Tables
 - COVERAGE
 - DENTAL-CLAIM
 - DEPARTMENT
 - EMPLOYEE
 - Columns
 - EMP_ID_0415 [NUMERIC(4, 0) PK]
 - EMP_FIRST_NAME_0415 [CHAR(10)]
 - EMP_LAST_NAME_0415 [CHAR(15)]
 - EMP_STREET_0415 [CHAR(20)]
 - EMP_CITY_0415 [CHAR(15)]
 - EMP_STATE_0415 [CHAR(2)]
 - EMP_ZIP_FIRST_FIVE_0415 [CHAR(5)]
 - EMP_ZIP_LAST_FOUR_0415 [CHAR(4)]
 - EMP_PHONE_0415 [NUMERIC(10, 0)]
 - STATUS_0415 [CHAR(2)]
 - SS_NUMBER_0415 [NUMERIC(9, 0)]
 - START_YEAR_0415 [NUMERIC(4, 0)]
 - START_MONTH_0415 [NUMERIC(2, 0)]
 - START_DAY_0415 [NUMERIC(2, 0)]
 - TERMINATION_YEAR_0415 [NUMERIC(4, 0)]
 - TERMINATION_MONTH_0415 [NUMERIC(2, 0)]
 - TERMINATION_DAY_0415 [NUMERIC(2, 0)]
 - BIRTH_YEAR_0415 [NUMERIC(4, 0)]
 - BIRTH_MONTH_0415 [NUMERIC(2, 0)]
 - BIRTH_DAY_0415 [NUMERIC(2, 0)]
 - Constraints
 - Dependencies
 - Indexes
 - Triggers

0 items selected

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Data Source Explorer

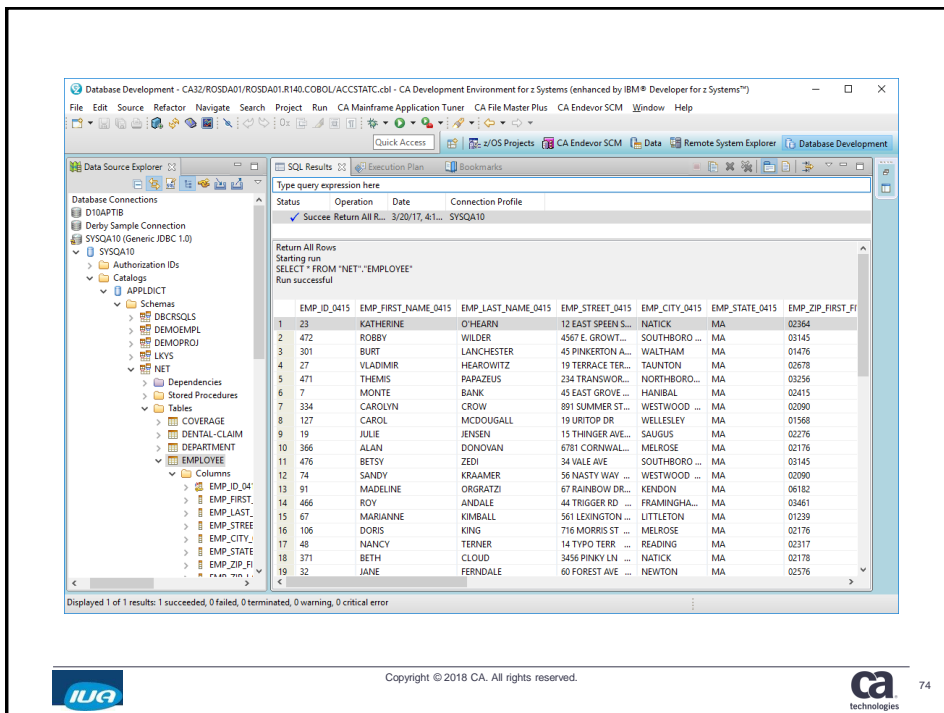
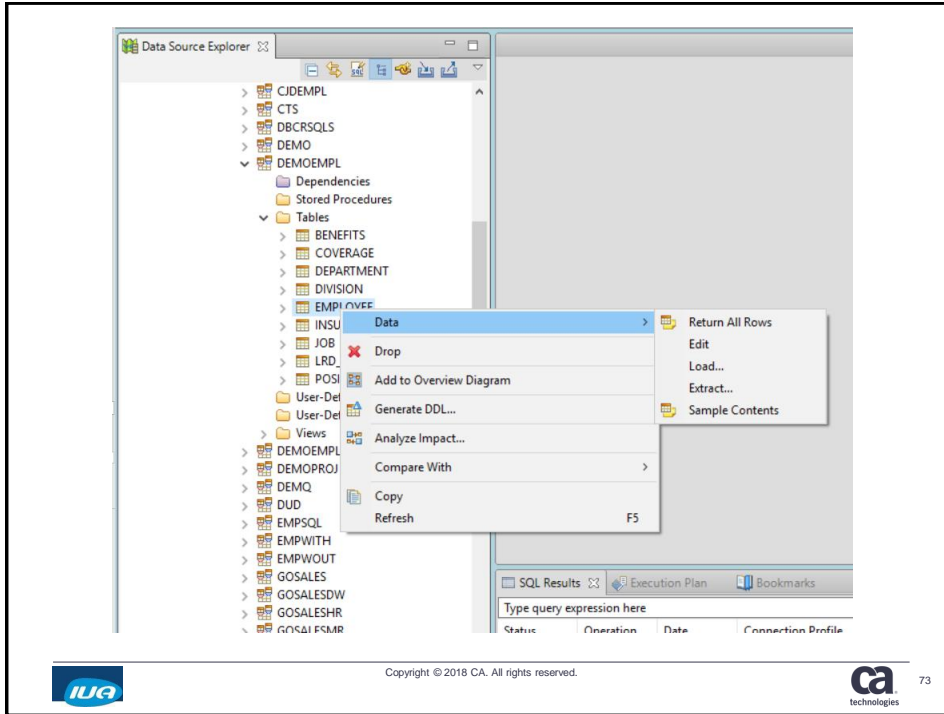
- Table
 - Columns
 - Constraints
 - Dependencies
 - Indexes
 - Triggers

DEMOEMPL

- Dependencies
- Stored Procedures
- Tables
 - BENEFITS
 - COVERAGE
 - DEPARTMENT
 - DIVISION
 - EMPLOYEE
 - Columns
 - EMP_ID [NUMERIC(4, 0) PK]
 - MANAGER_ID [NUMERIC(4, 0) Nullable]
 - EMP_FNAME [CHAR(20)]
 - EMP_LNAME [CHAR(20)]
 - DEPT_ID [NUMERIC(4, 0) FK]
 - STREET [CHAR(40)]
 - CITY [CHAR(20)]
 - STATE [CHAR(2)]
 - ZIP_CODE [CHAR(9)]
 - PHONE [CHAR(10) Nullable]
 - STATUS [CHAR(1)]
 - SS_NUMBER [NUMERIC(9, 0)]
 - START_DATE [DATE]
 - TERMINATION_DATE [DATE Nullable]
 - BIRTH_DATE [DATE Nullable]
 - Constraints

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Summary

- Developers are able to maintain IDMS applications on a modern platform
- Enhanced Text editing and integrated pre-compilers for IDMS programs
- Explore CA IDMS Databases



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Session Summary

- Portfolio simplification
- Continuous delivery allows timely
- Your voice is being heard – submit those ideas through the IUA community site



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Comments: _____					
The session met my expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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General Comments:	_____ _____ _____ _____ _____				