I am IMS

IMS Enterprise Suite Explorer for Development

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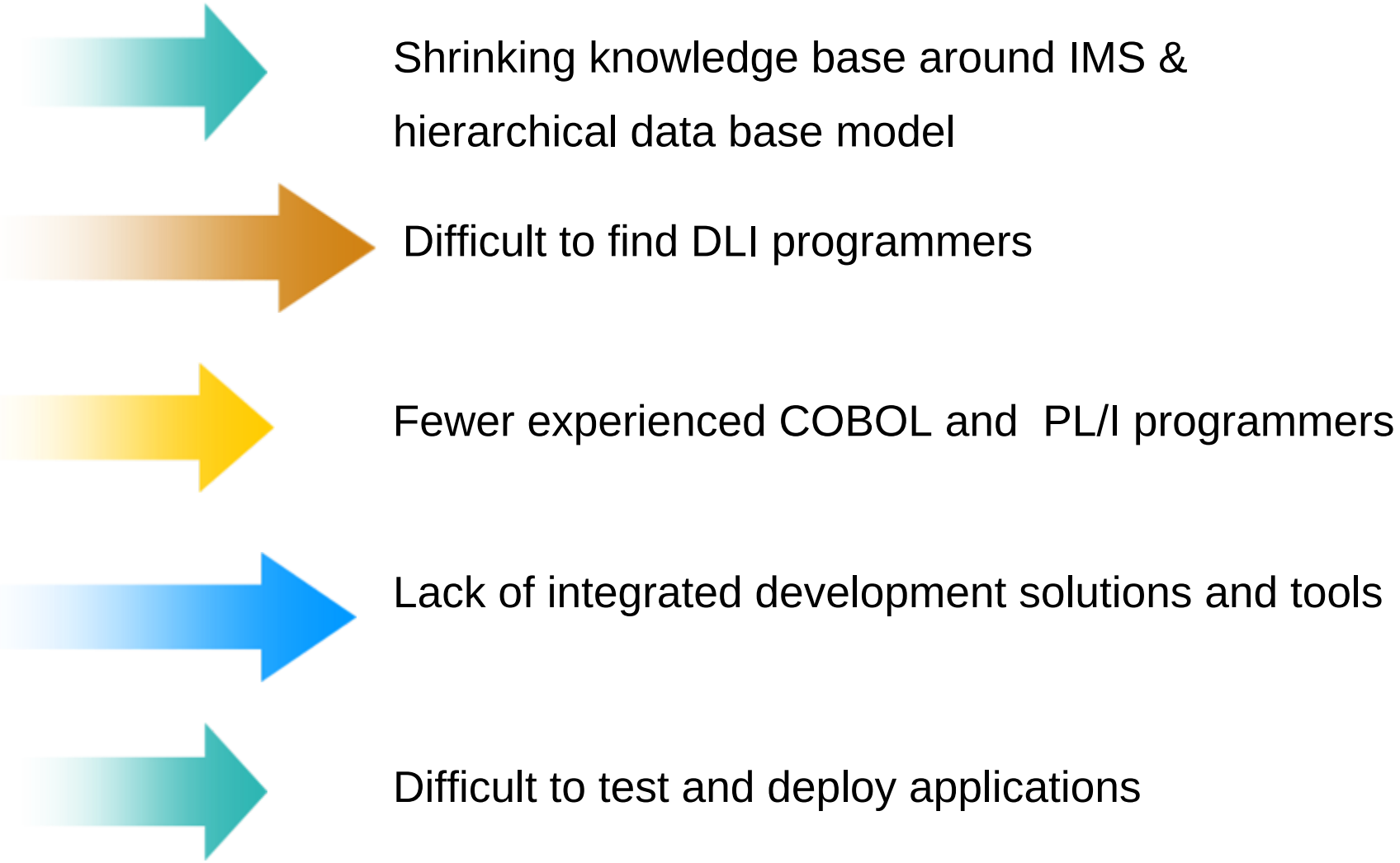
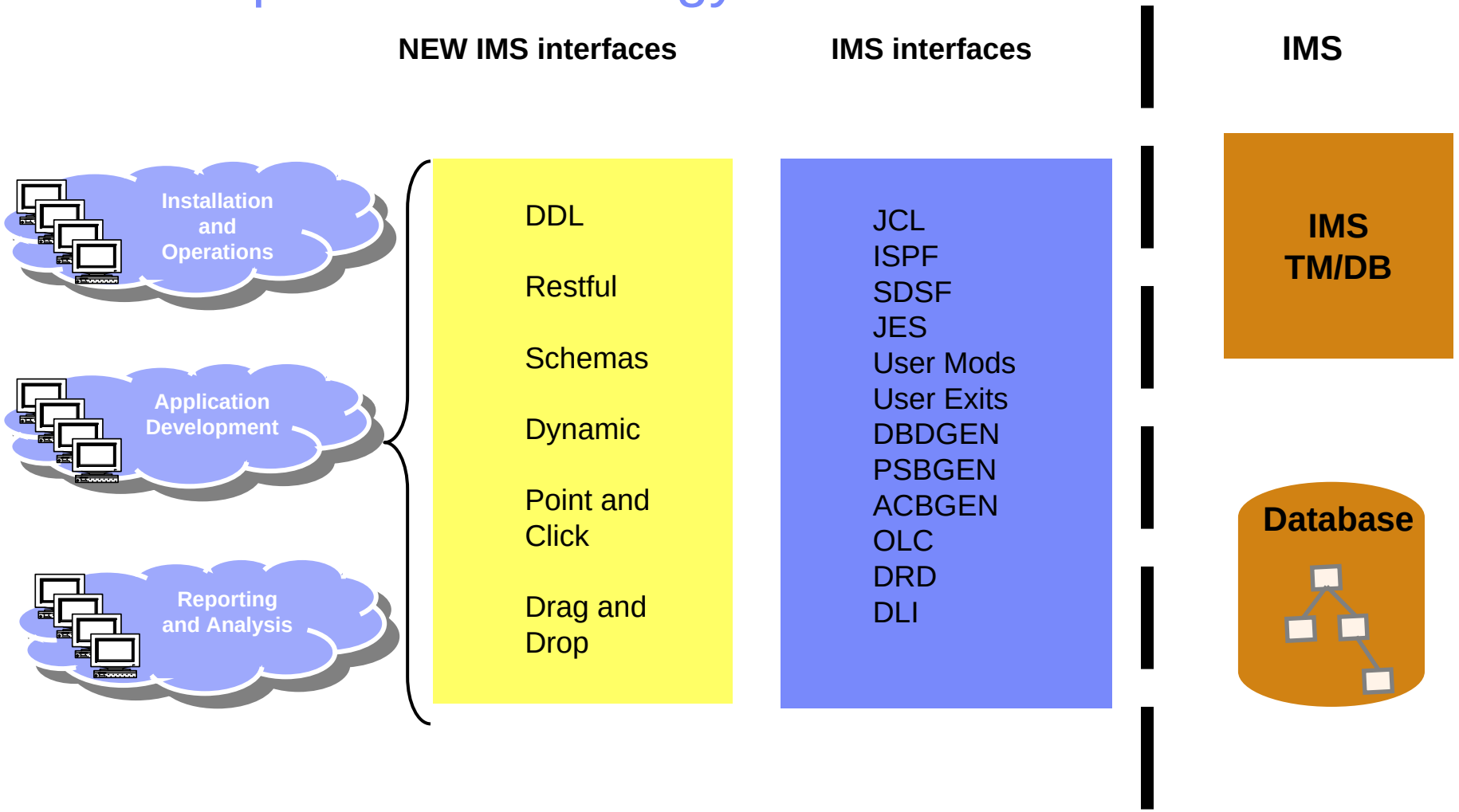
IMS Application Development (AD) Challenges



- Shrinking knowledge base around IMS & hierarchical data base model
- Difficult to find DLI programmers
- Fewer experienced COBOL and PL/I programmers
- Lack of integrated development solutions and tools
- Difficult to test and deploy applications

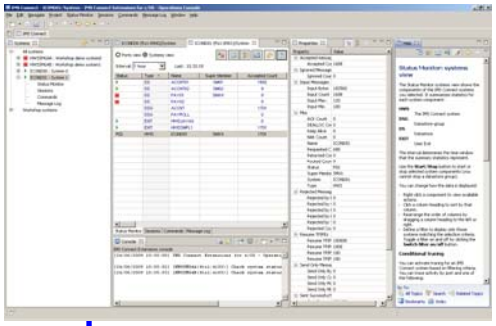
IMS Simplification Strategy



Reduce the need for special, in-depth IMS skills

IMS Simplification Strategy

IMS Explorer for Development

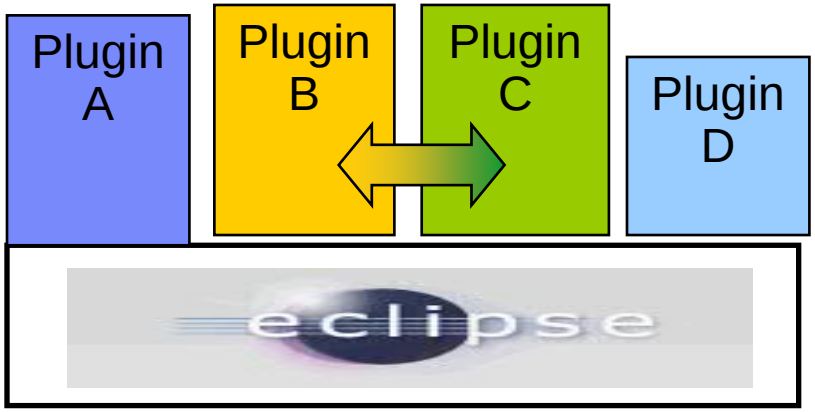


Developer

- **ISPF**

Eclipse Integrated Development Environment

- Is a fully Integrated Development Environment supporting
  - Java, C/C++/C#, PERL, PHP, HTML, JSP™, EJB™ …
- Integration platform for tools and open platform for application development tools
- Easily add new tools to existing installed products
  - common shell sharing
- All IBM Rational® products are Eclipse based

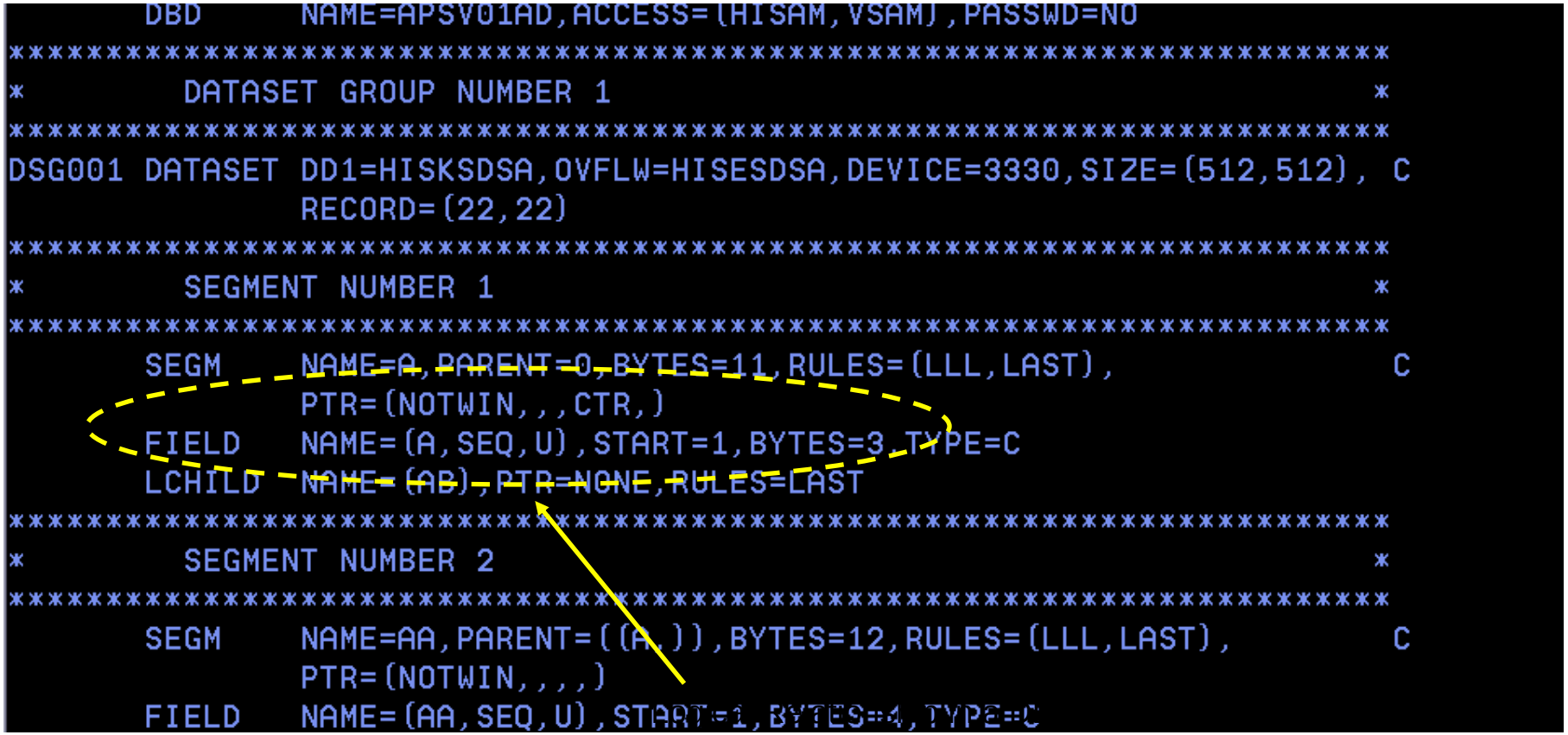


Introducing the IMS Explorer for Development

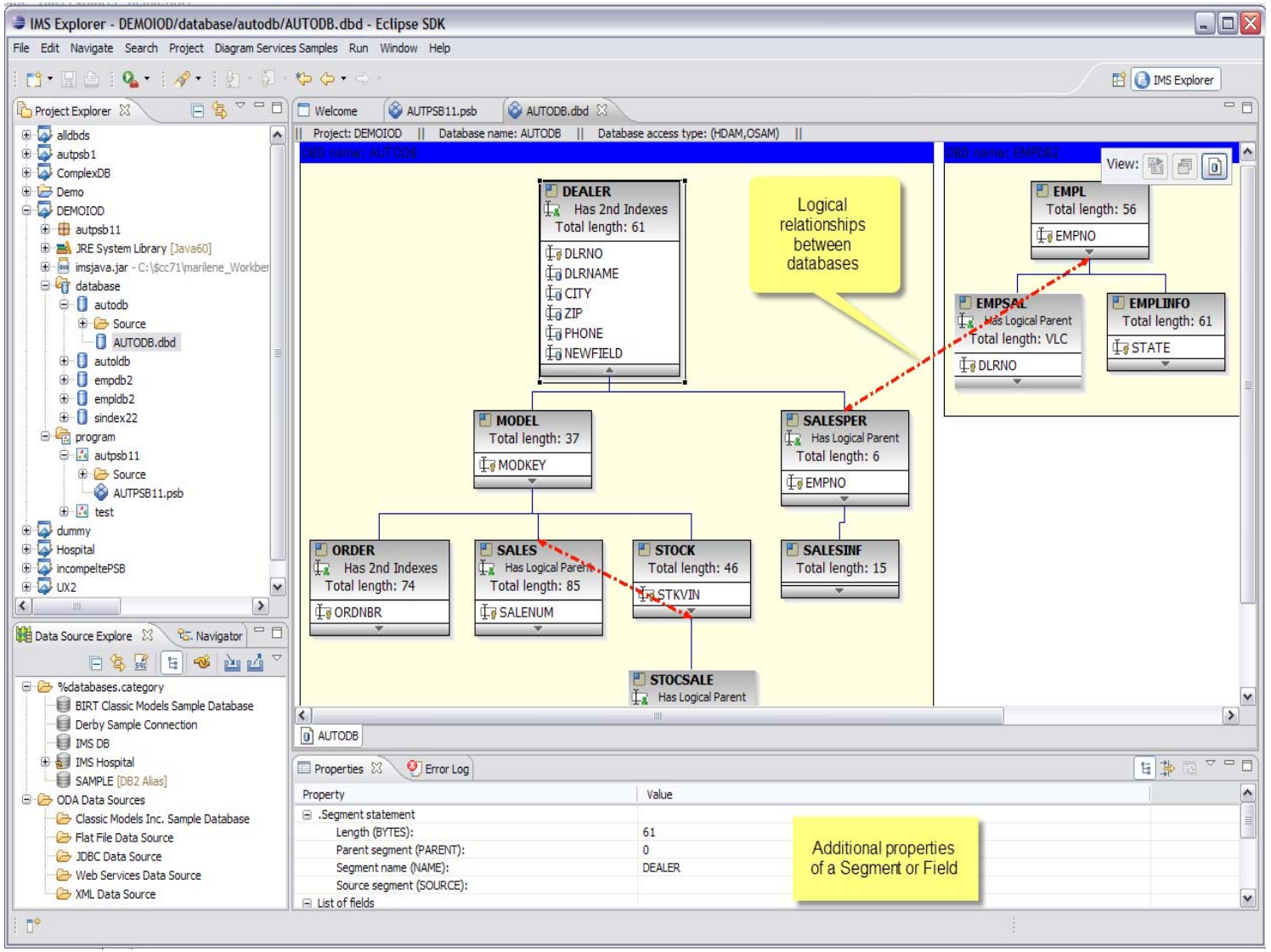
- Easier visualization and editing of IMS Database and Program Definitions
  - Provide graphical editors to:
    - Display IMS database hierarchical structures
    - Display/create/edit PSBs
    - Change/add fields on a DBDs
  - Import Cobol CopyBooks and PL/I Structures to a database segment*
  - Generate of DBD and PSB source
- Ability to easily access IMS data using SQL statements
  - Leveraging IMS v11 Universal JDBC driver
- Connectivity to the z/OS system
  - Browse a Data Set and submit JCLs
  - Import and export DBD and PSB source files from a Data Set to the IMS Explorer, and vice-versa

*Requires RDz 8

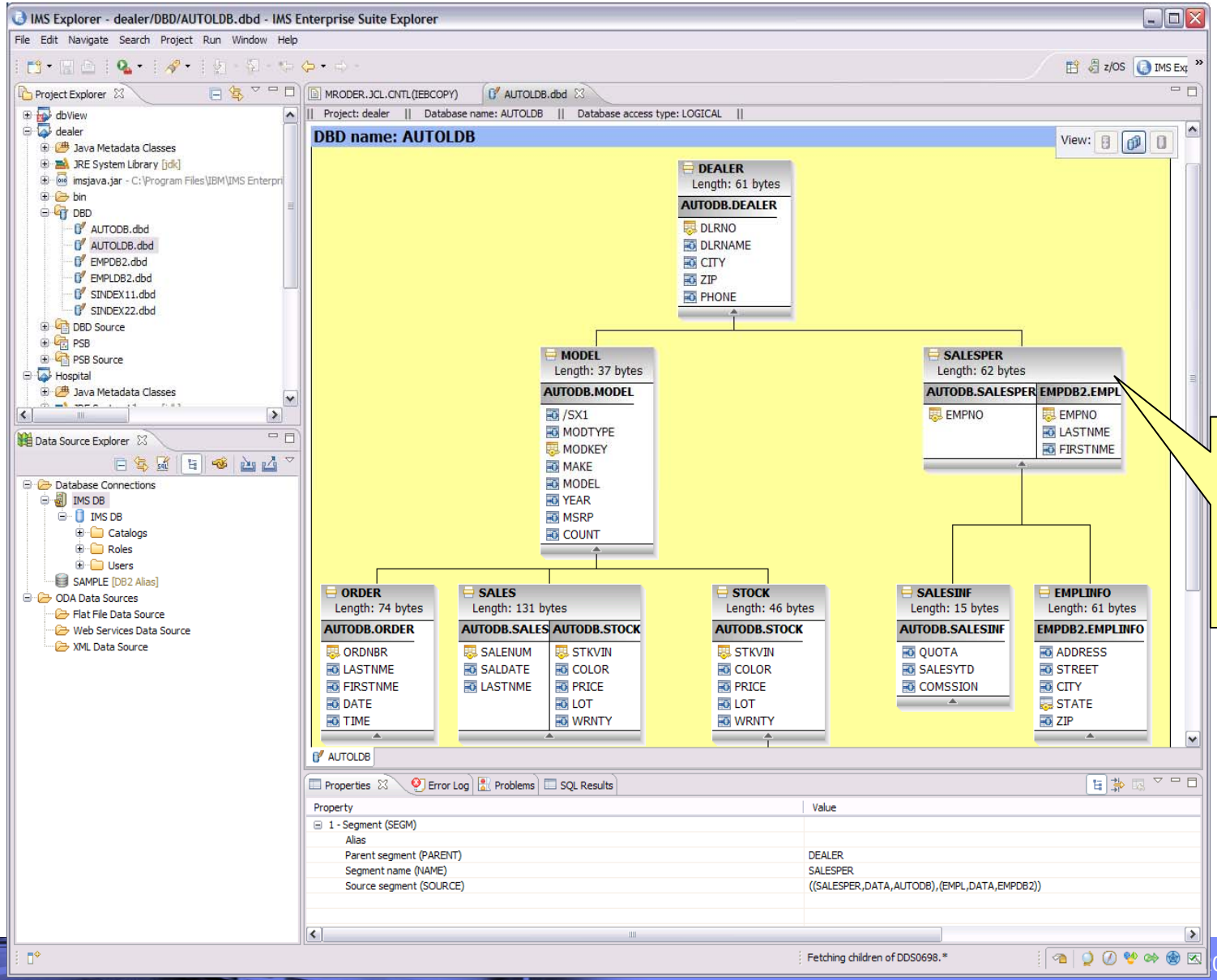
Displaying an IMS Database Structure via Green Screen



Displaying a physical IMS Database Structure with IMS Explorer



Displaying a logical IMS Database Structure with IMS Explorer

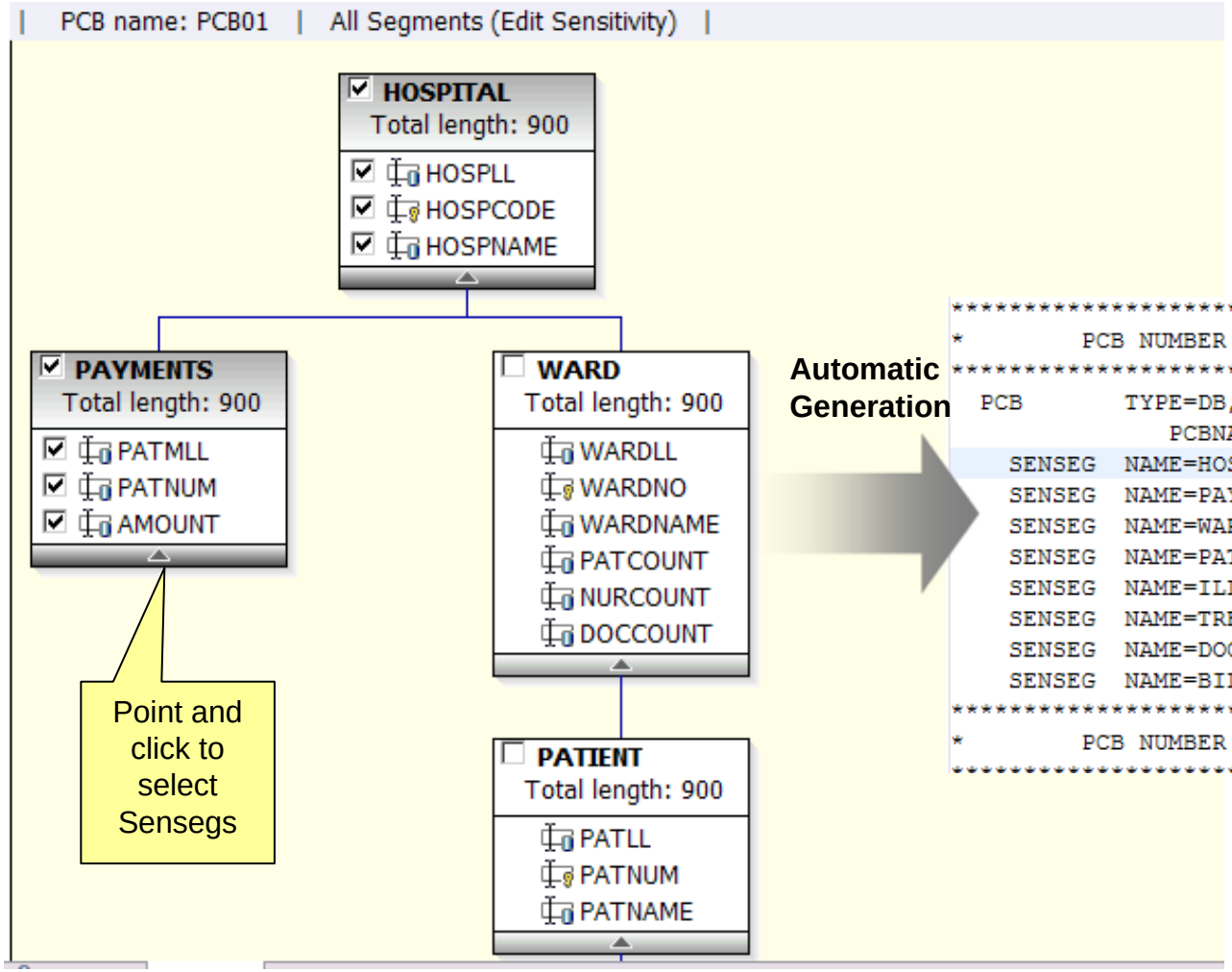


A concatenated segment and its underlying source segments

PSB and PCB Definitions via Green Screen

```
 HOSPTAL  PSBGEN1  F1  V 80  Trunc=80 Size=175 Line=78 Col=1 Alt=0
====>
00075 ************************************************************************
00076 *         PCB NUMBER 6       DB    DEDBJN21
00077 ************************************************************************
00078 _ PCB        TYPE=DB,DBDNAME=DEDBJN21,POS=M,PROCOPT=A,KEYLEN=26,        C
00079                 PCBNAME=PCB01
00080      SENSEG  NAME=HOSPITAL,PARENT=0
00081      SENSEG  NAME=PAYMENTS,PARENT=HOSPITAL,PROCOPT=GI
00082      SENSEG  NAME=WARD,PARENT=HOSPITAL
00083      SENSEG  NAME=PATIENT,PARENT=WARD
00084      SENSEG  NAME=ILLNESS,PARENT=PATIENT
00085      SENSEG  NAME=TREATMNT,PARENT=ILLNESS
00086      SENSEG  NAME=DOCTOR,PARENT=TREATMNT
00087      SENSEG  NAME=BILLING,PARENT=PATIENT
00088 ************************************************************************
00089 *         PCB NUMBER 6       DB    DEDBJN21
00090 ************************************************************************
00091   PCB        TYPE=DB,DBDNAME=DEDBJN21,POS=M,PROCOPT=GO,KEYLEN=26,        C
00092                 PCBNAME=PCB10
00093      SENSEG  NAME=HOSPITAL,PARENT=0
00094      SENSEG  NAME=PAYMENTS,PARENT=HOSPITAL
PF 1 FIG         2 SCREEN 2    3 QUIT        4 FILE        5 REPEAT     6 ADD
PF 7 BACKWARD    8 FORWARD     9 XFILE      10 LEFT       11 RIGHT     12 JOIN
```

Building a PCB definition with IMS Explorer



Automatic Generation

```
*********************************************************
*         PCB NUMBER 5       DB    DEDBJN21
*********************************************************
 PCB        TYPE=DB,DBDNAME=DEDBJN21,POS=M,PROCOPT=A,KEYLEN
               PCBNAME=PCB01
    SENSEG   NAME=HOSPITAL,PARENT=0
    SENSEG   NAME=PAYMENTS,PARENT=HOSPITAL,
    SENSEG   NAME=WARD,PARENT=HOSPITAL
    SENSEG   NAME=PATIENT,PARENT=WARD
    SENSEG   NAME=ILLNESS,PARENT=PATIENT
    SENSEG   NAME=TREATMNT,PARENT=ILLNESS
    SENSEG   NAME=DOCTOR,PARENT=TREATMNT
    SENSEG   NAME=BILLING,PARENT=PATIENT
*********************************************************
*         PCB NUMBER 6       DB    IVPDB1
*********************************************************
```

Generated PSB source

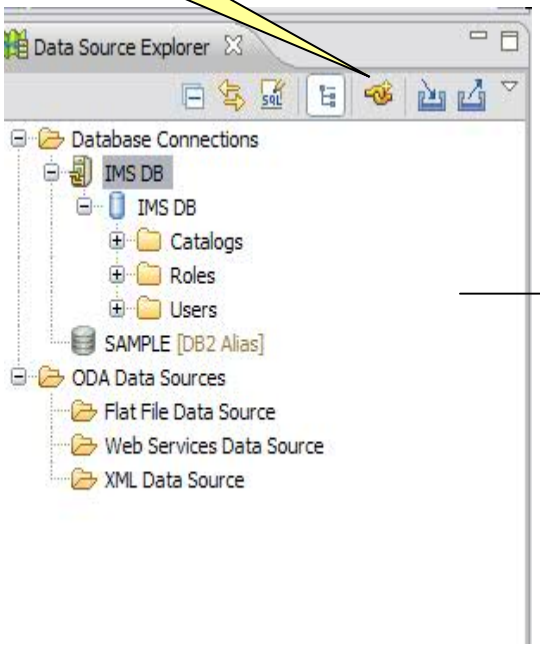
Querying an IMS Database with DFSDDLT0

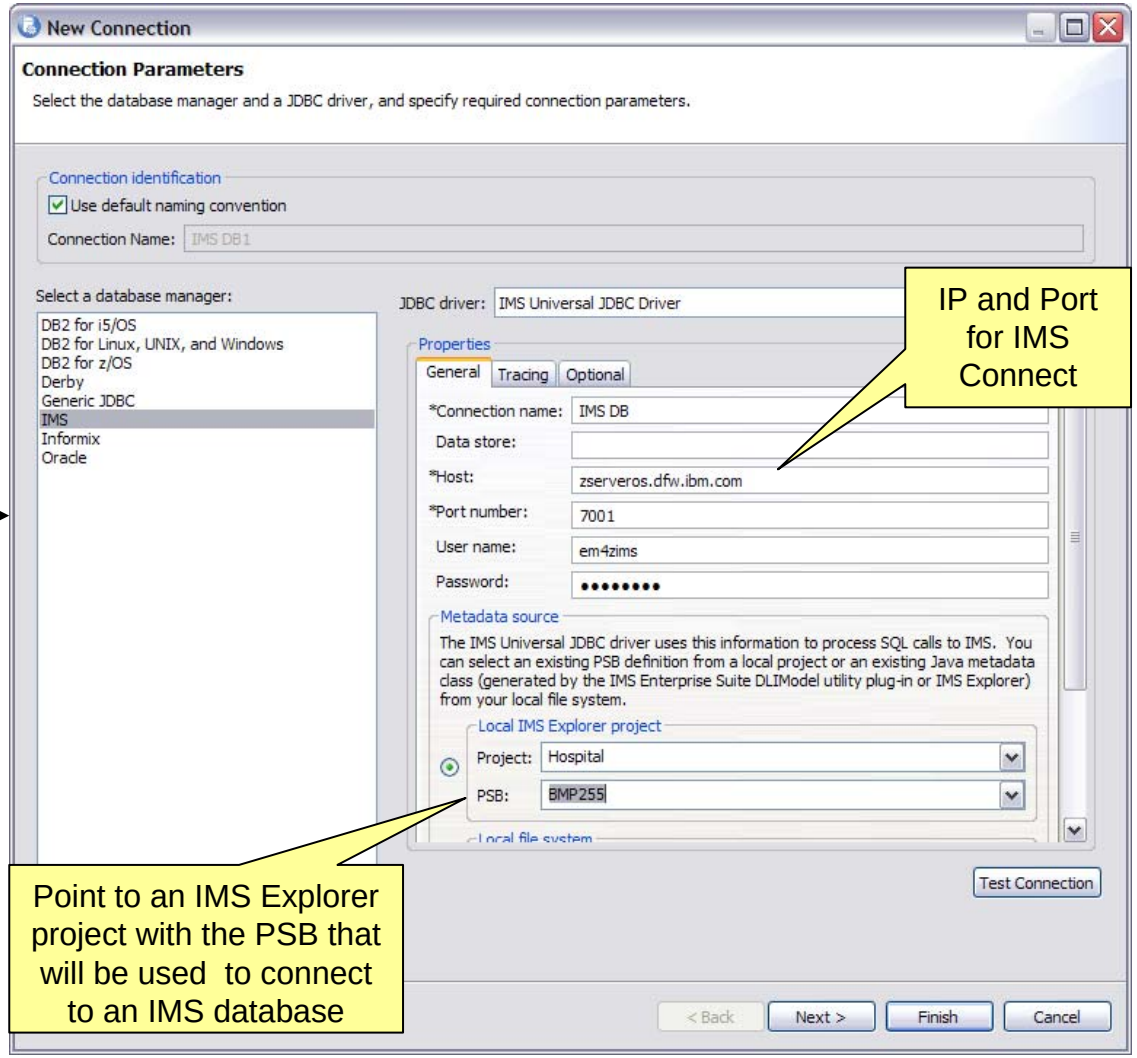
```
 $DDLT0    NEWJCL    F1  V 80  Trunc=80 Size=96 Line=25 Col=1 Alt=0
====>
00022 U ********************************************************************************
00023 WTO Start of the DDLT0 stream
00024 U status card has all 1's so all tracing is ON.
00025 U status card has 00002 so we use the second PCB in the PSB
00026 S 1 1 1 1 1        00002
00027 WTO Now doing GN through the database
00028 L          GN
00029 E          DATA  KAA11**K1*
00030 E    01     K1         0005KAA11
00031 L          GN
00032 E          DATA  KBBB11**K2
00033 E    02     K2         0011KAA11KBBB11
00034 L          GN
00035 E          DATA  KAA31KEE31K3131113121313131413151 3KEE31K5R31
00036 E    03     K3K5       0021KAA11KBBB11KAA31KEE31
00037 L          GN
00038 E          DATA  KAA31**K1*
00039 E    04     K1X        0026KAA11KBBB11KAA31KEE31KAA31
00040 L          GN
00041 E          DATA  KAA31KEE32K3132113221323132413251 3KEE32K5R32
PF 1 FIG         2 SCREEN 2    3 QUIT        4 FILE        5 REPEAT     6 ADD
PF 7 BACKWARD    8 FORWARD     9 XFILE      10 LEFT       11 RIGHT     12 JOIN
```

Querying an IMS Database with IMS Explorer with Universal JDBC driver

1 – Start by establishing a connection to an IMS system ….

Create a new connection …



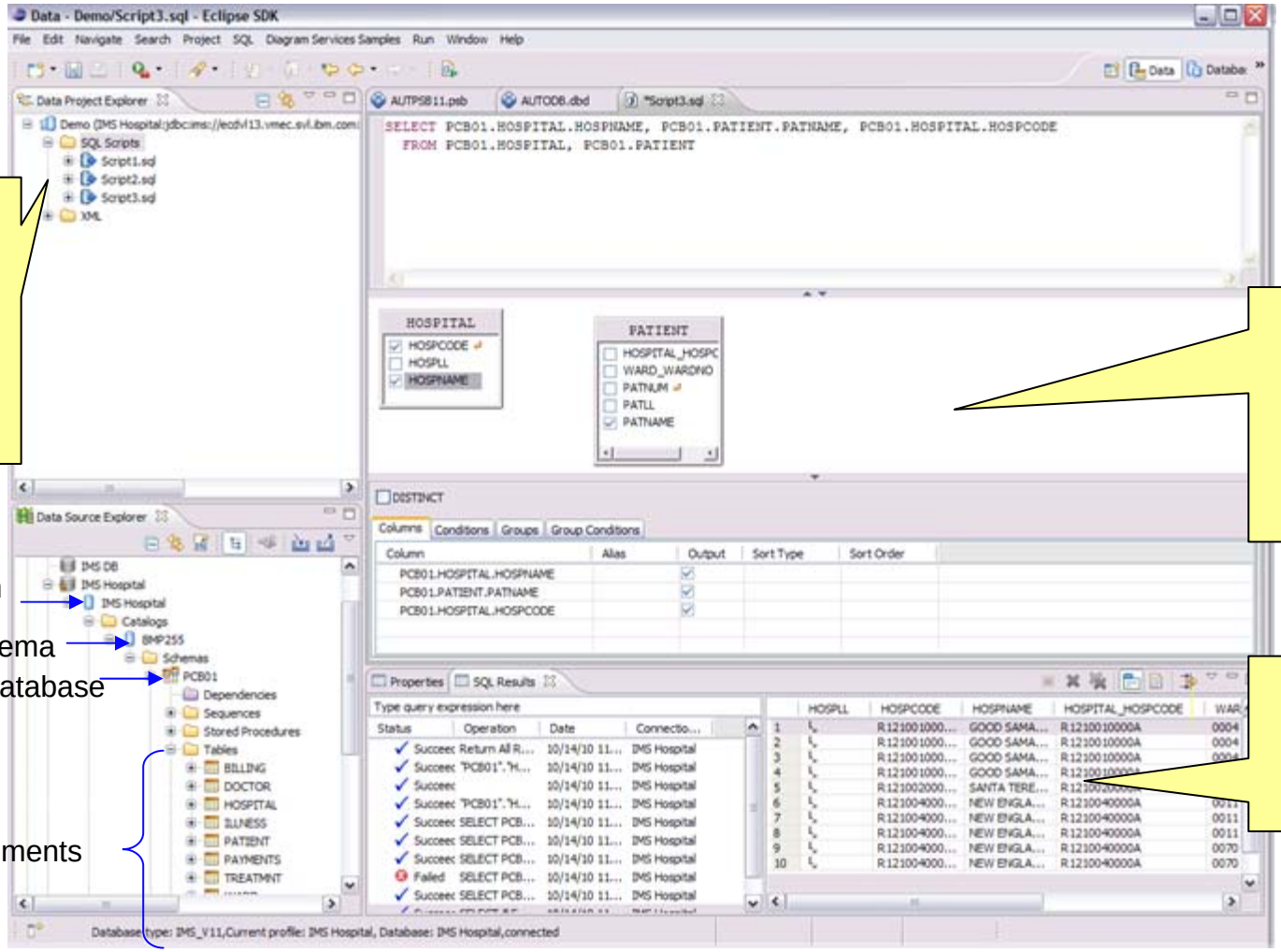


IP and Port for IMS Connect

Point to an IMS Explorer project with the PSB that will be used to connect to an IMS database

Querying an IMS Database with IMS Explorer with Universal JDBC driver

2 – Connect … and start querying, updating, deleting IMS data



Here you can create SQL scripts with Select, Update, Delete, Insert statements

SQL Builder with content assistance to build a SQL statement

Connection

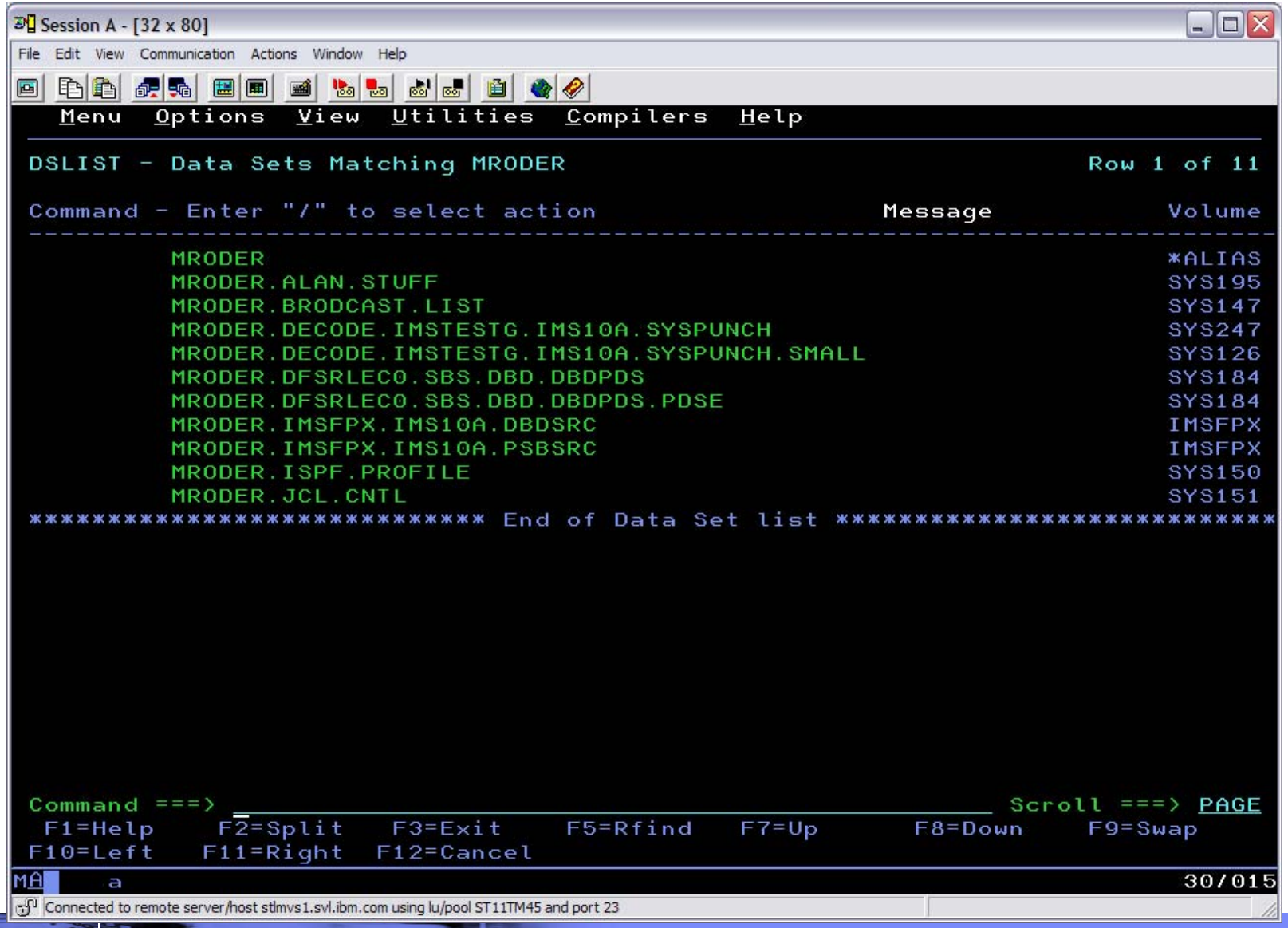
PSB = Schema

DB PCB = Database

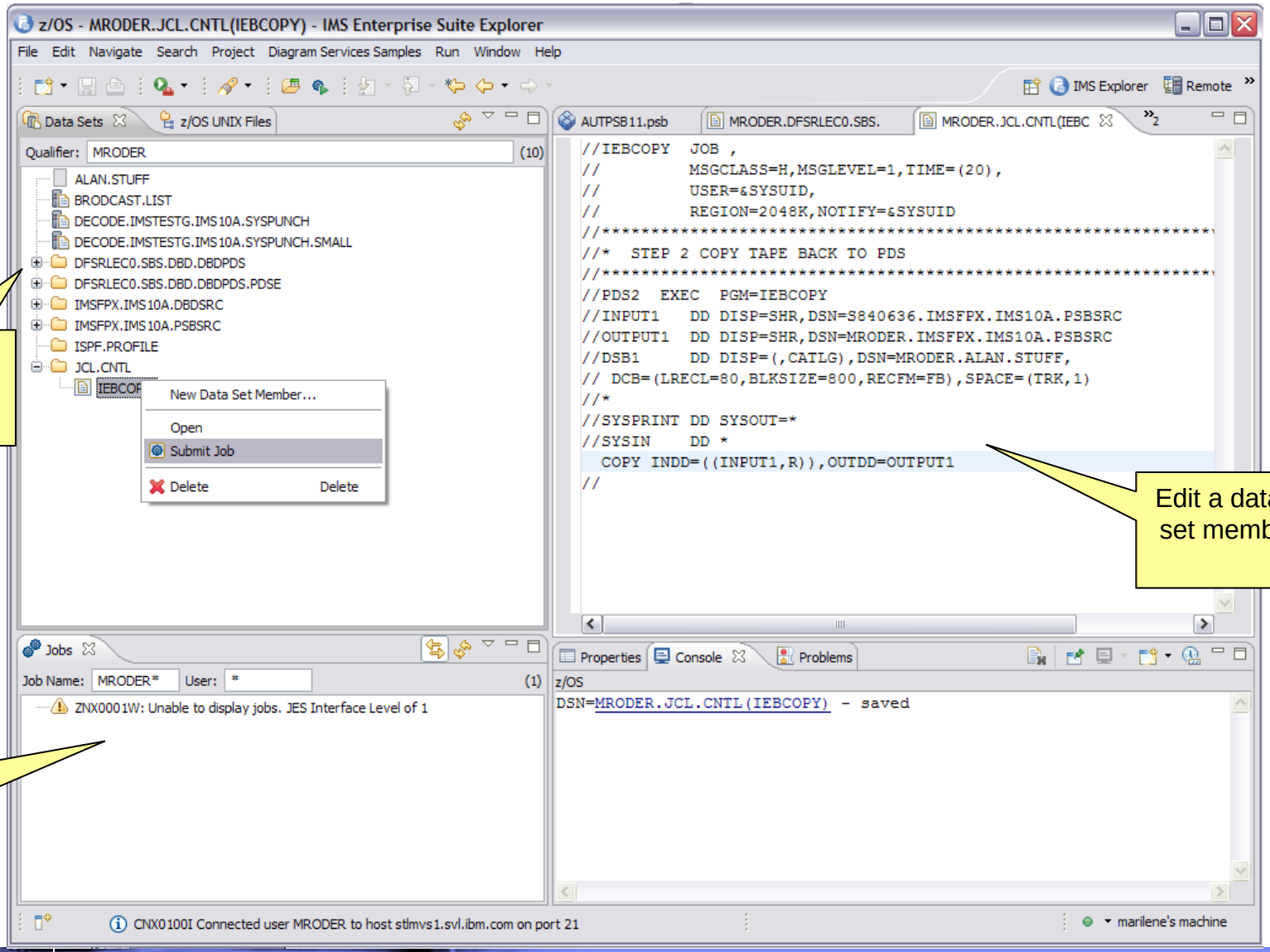
View w/ the SQL results

Database Segments

Browsing Data Sets and Submitting JCL's



Browsing Data Sets and Submitting JCL's with the IMS Explorer



Browse data sets

Edit a data a set member

JES output is displayed here

IMS Explorer
Integration Strategy

Out of the box shell-sharing with:

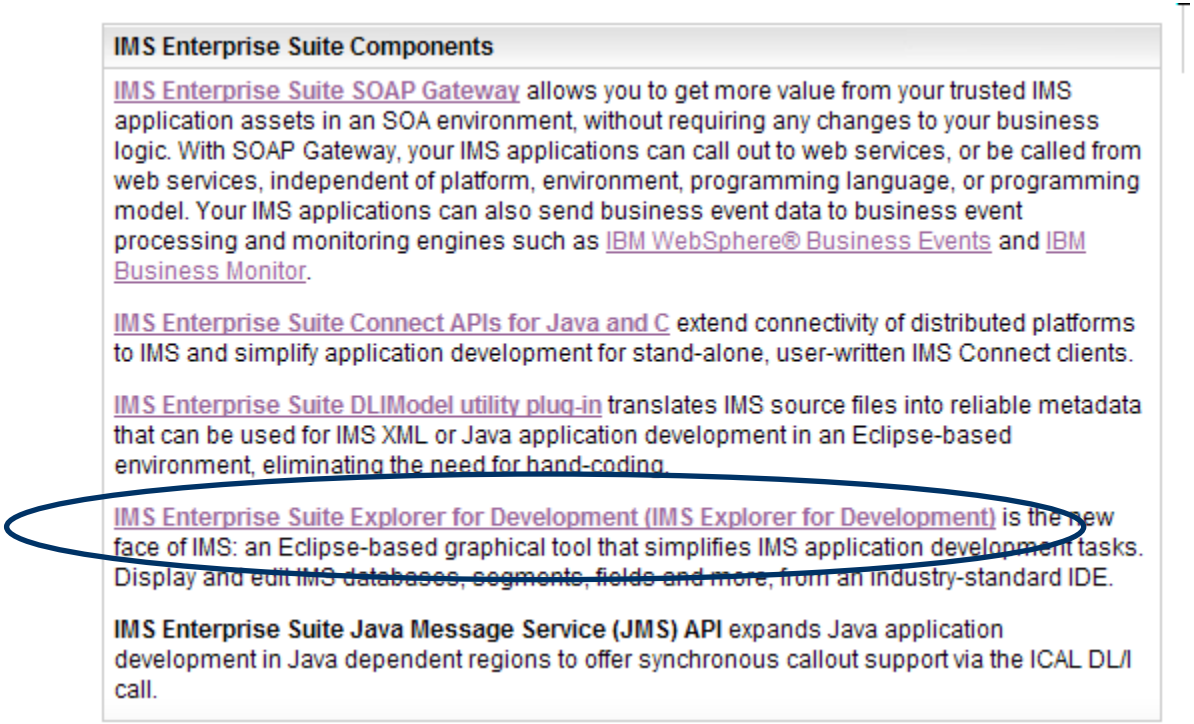
- IMS Tools
- Rational Development for Systems z
  - Including RDz UT
- Problem Determination Tools
- Optim Data Studio

Want to Learn More About IMS Explorer?

Go to:

www.ibm.com/ims

→ Click on IMS Enterprise Suite



IMS Enterprise Suite Components

IMS Enterprise Suite SOAP Gateway allows you to get more value from your trusted IMS application assets in an SOA environment, without requiring any changes to your business logic. With SOAP Gateway, your IMS applications can call out to web services, or be called from web services, independent of platform, environment, programming language, or programming model. Your IMS applications can also send business event data to business event processing and monitoring engines such as IBM WebSphere® Business Events and IBM Business Monitor.

IMS Enterprise Suite Connect APIs for Java and C extend connectivity of distributed platforms to IMS and simplify application development for stand-alone, user-written IMS Connect clients.

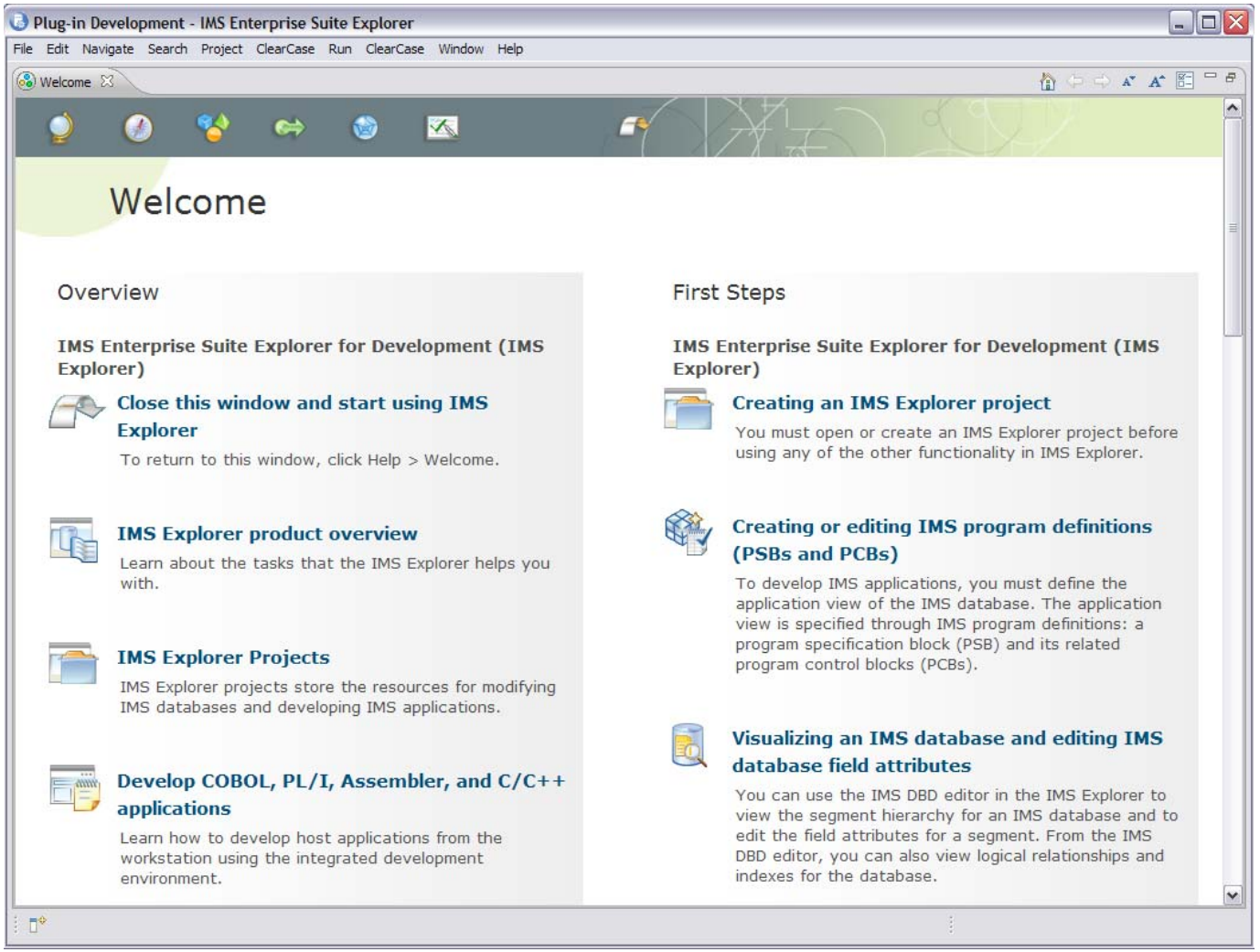
IMS Enterprise Suite DLIModel utility plug-in translates IMS source files into reliable metadata that can be used for IMS XML or Java application development in an Eclipse-based environment, eliminating the need for hand-coding.

IMS Enterprise Suite Explorer for Development (IMS Explorer for Development) is the new face of IMS: an Eclipse-based graphical tool that simplifies IMS application development tasks. Display and edit IMS databases, segments, fields and more, from an industry-standard IDE.

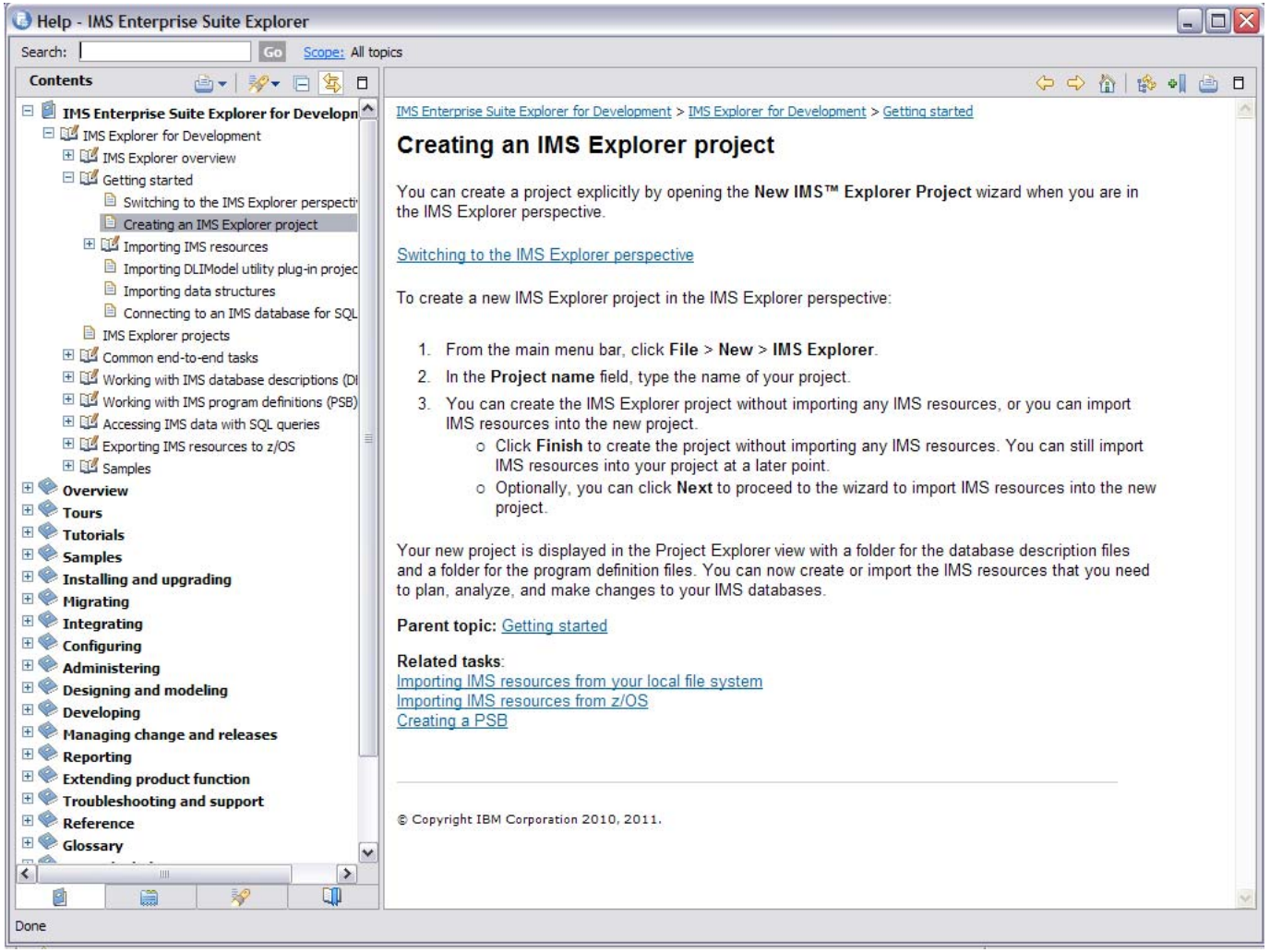
IMS Enterprise Suite Java Message Service (JMS) API expands Java application development in Java dependent regions to offer synchronous callout support via the ICAL DL/I call.

Demo

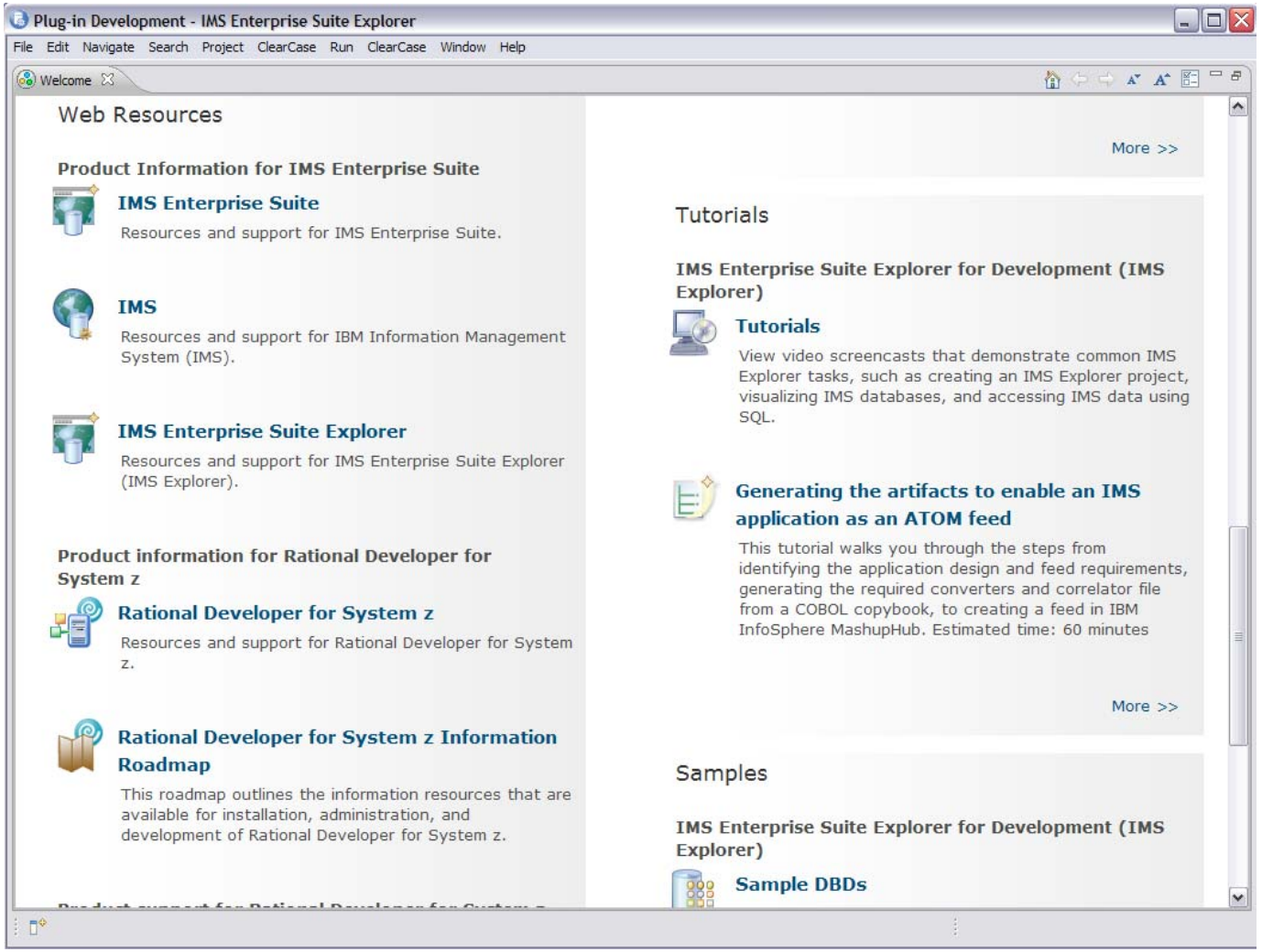
Welcome Screen



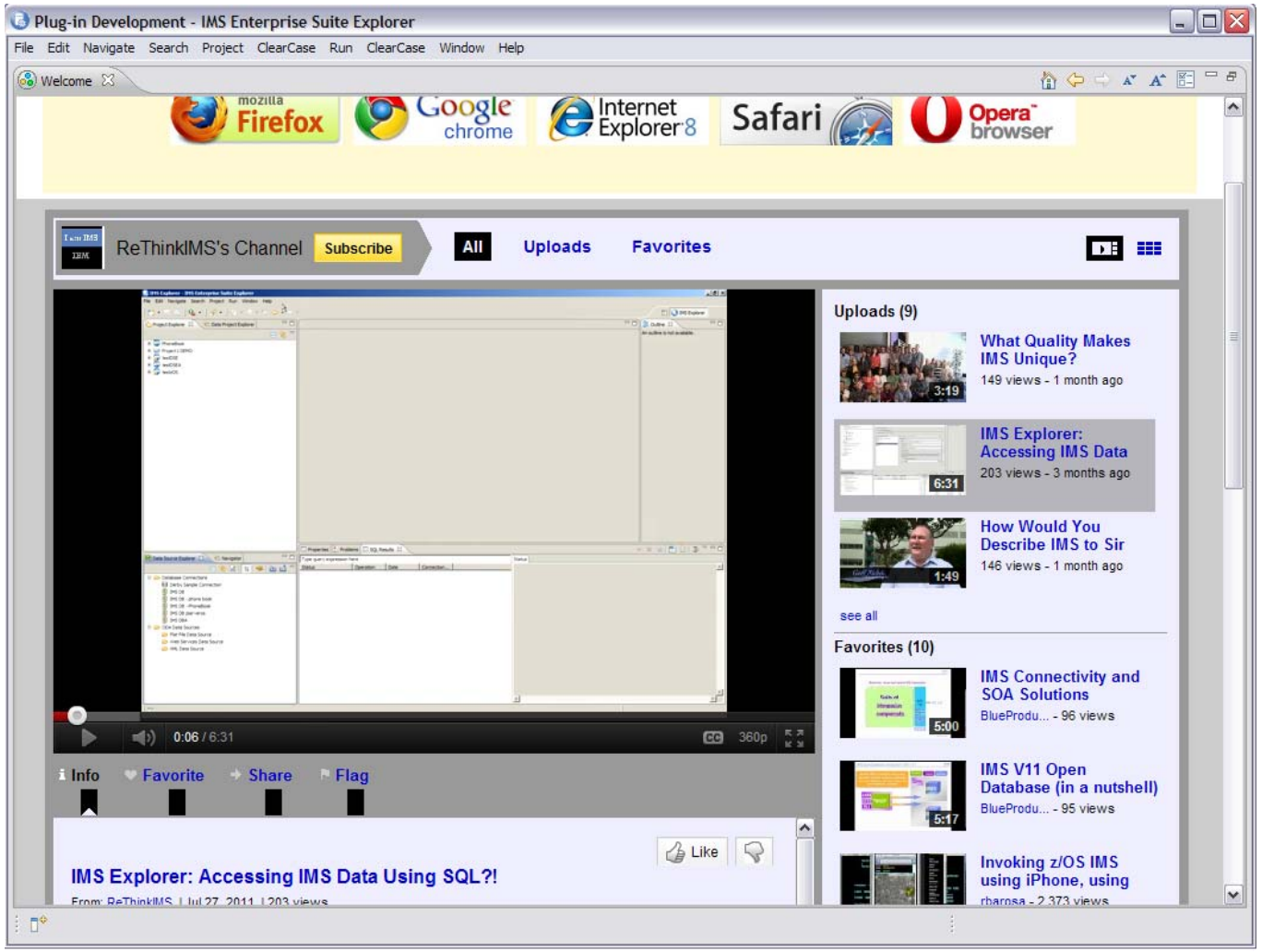
Help with tasks



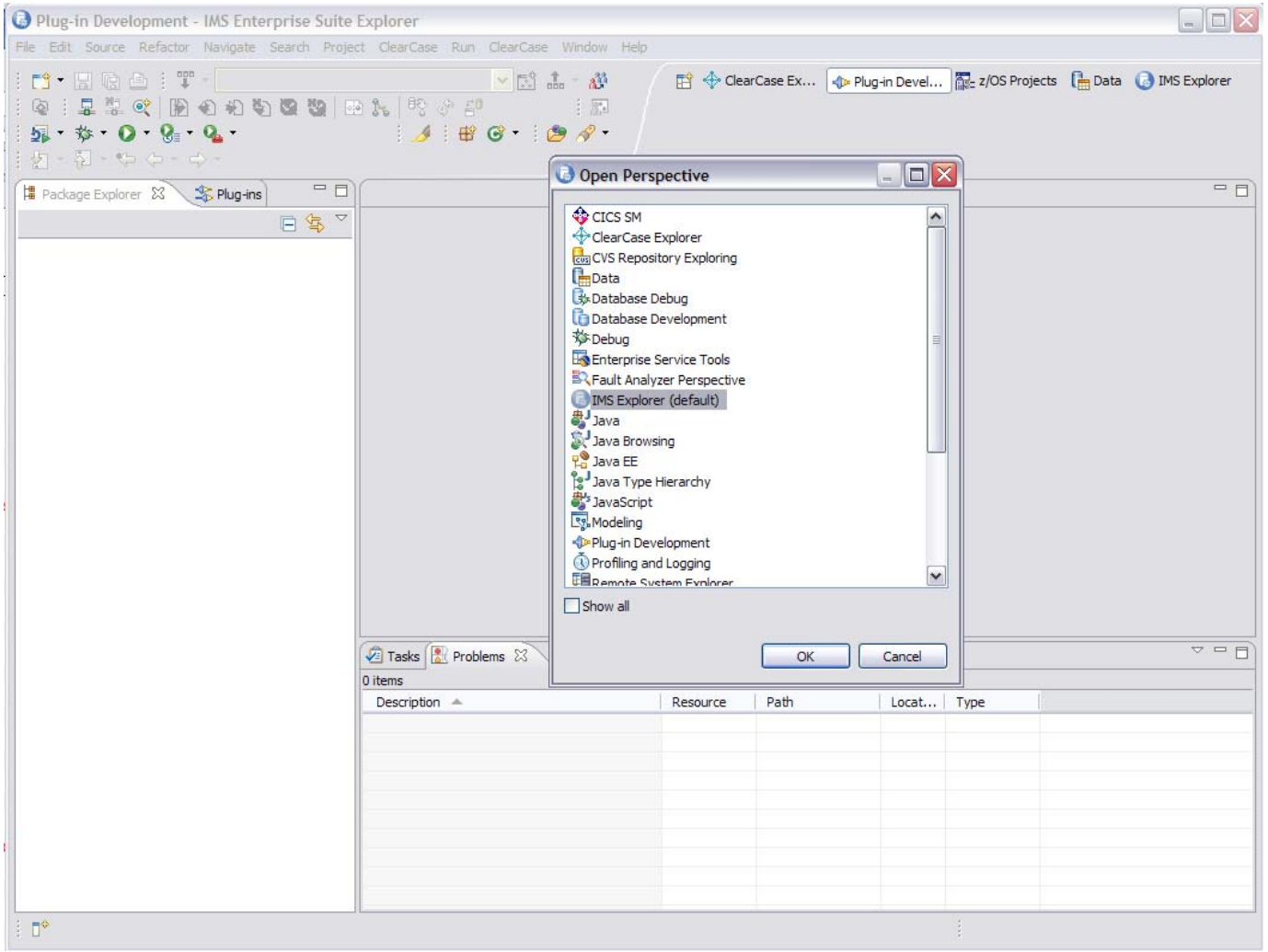
Welcome Screen



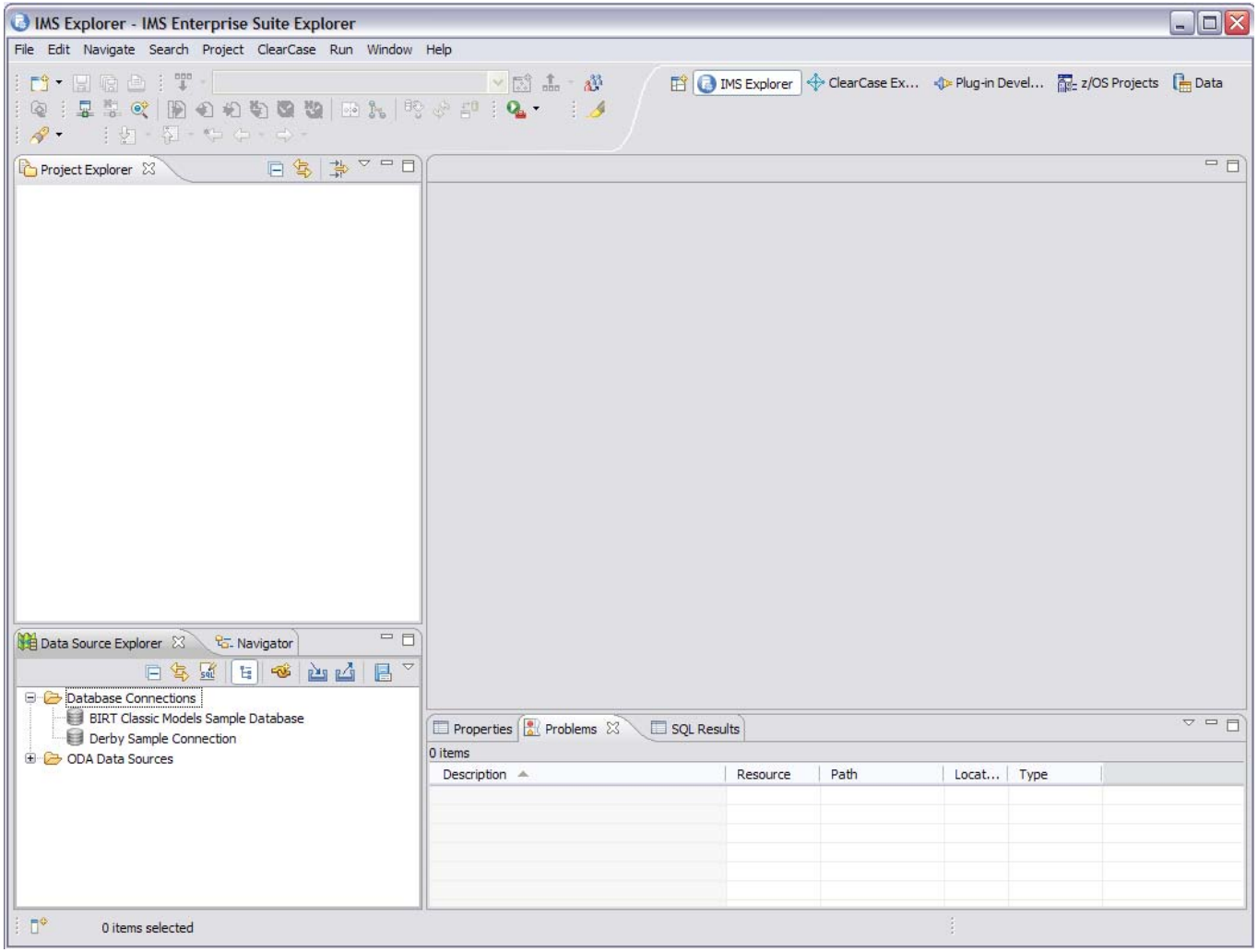
Tutorials on the web



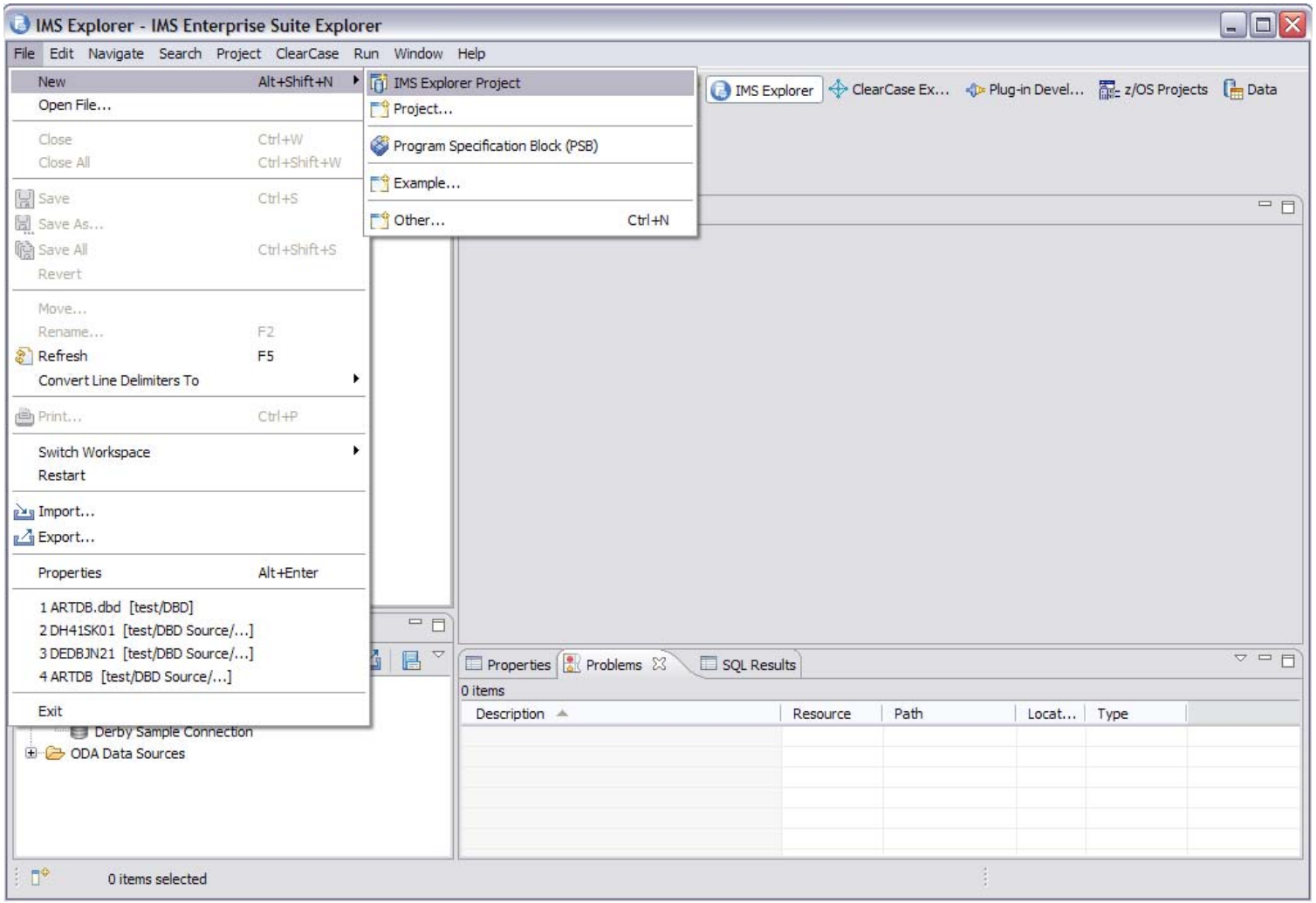
Switching to IMS Explorer perspective



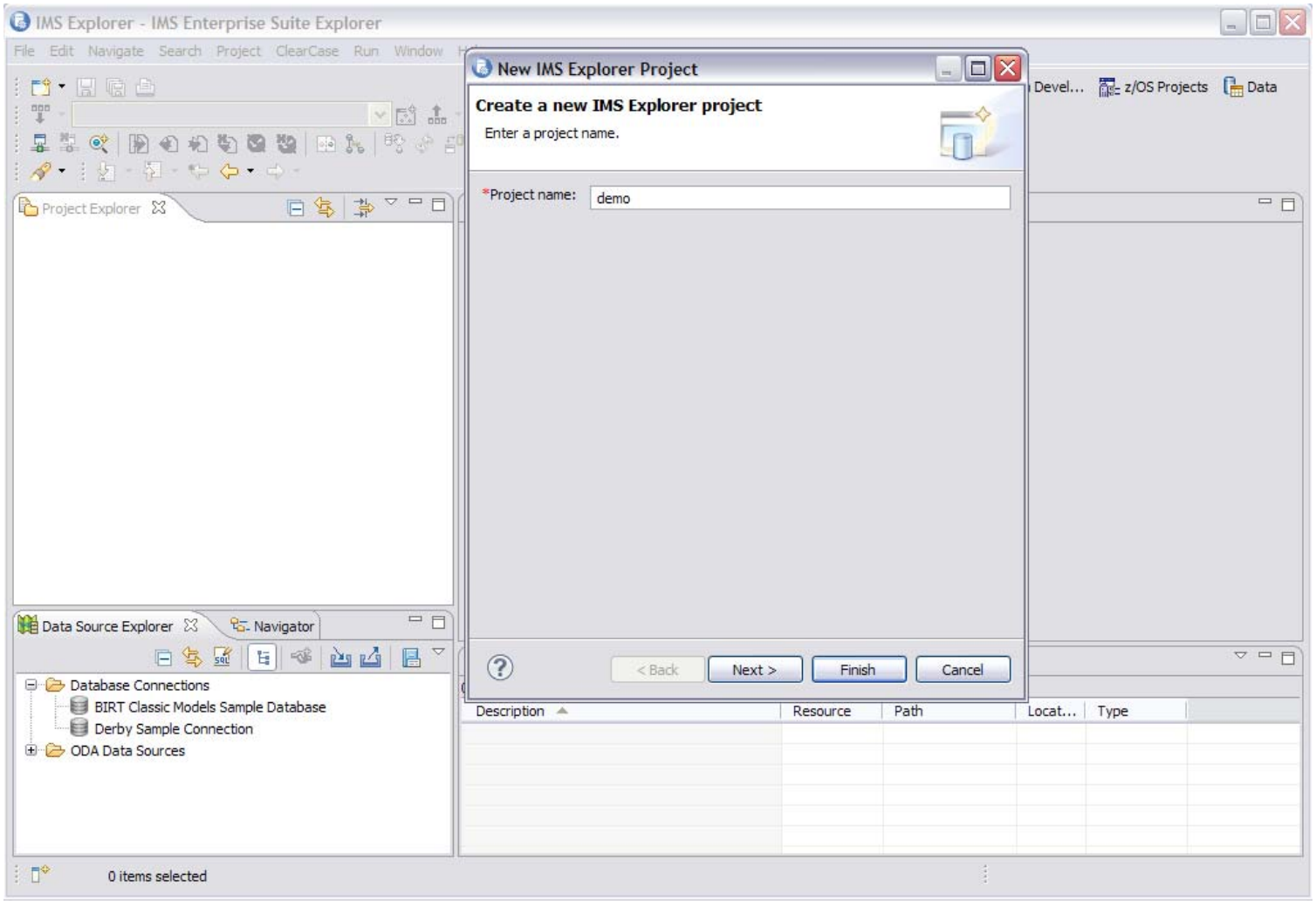
IMS Explorer perspective



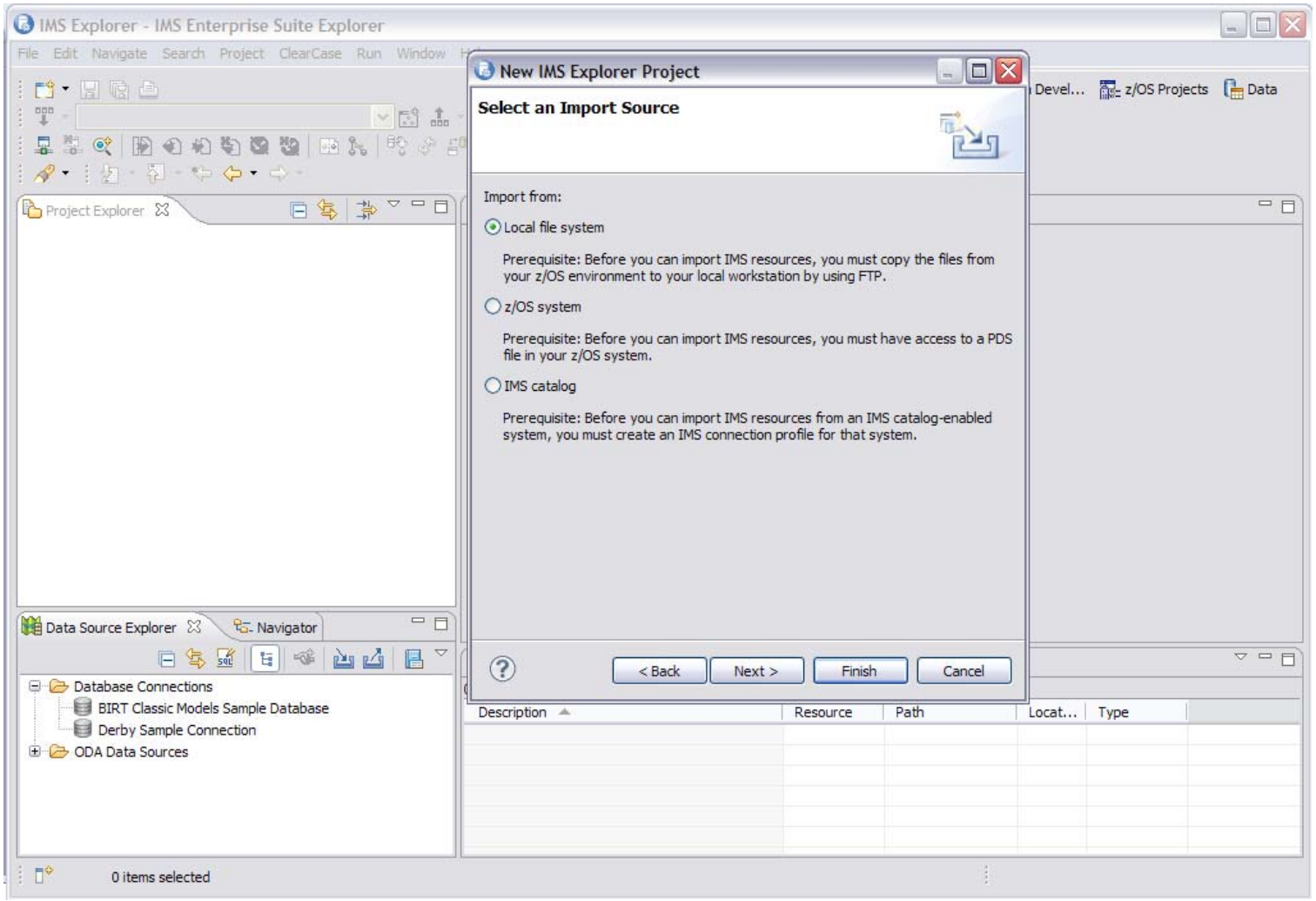
New project



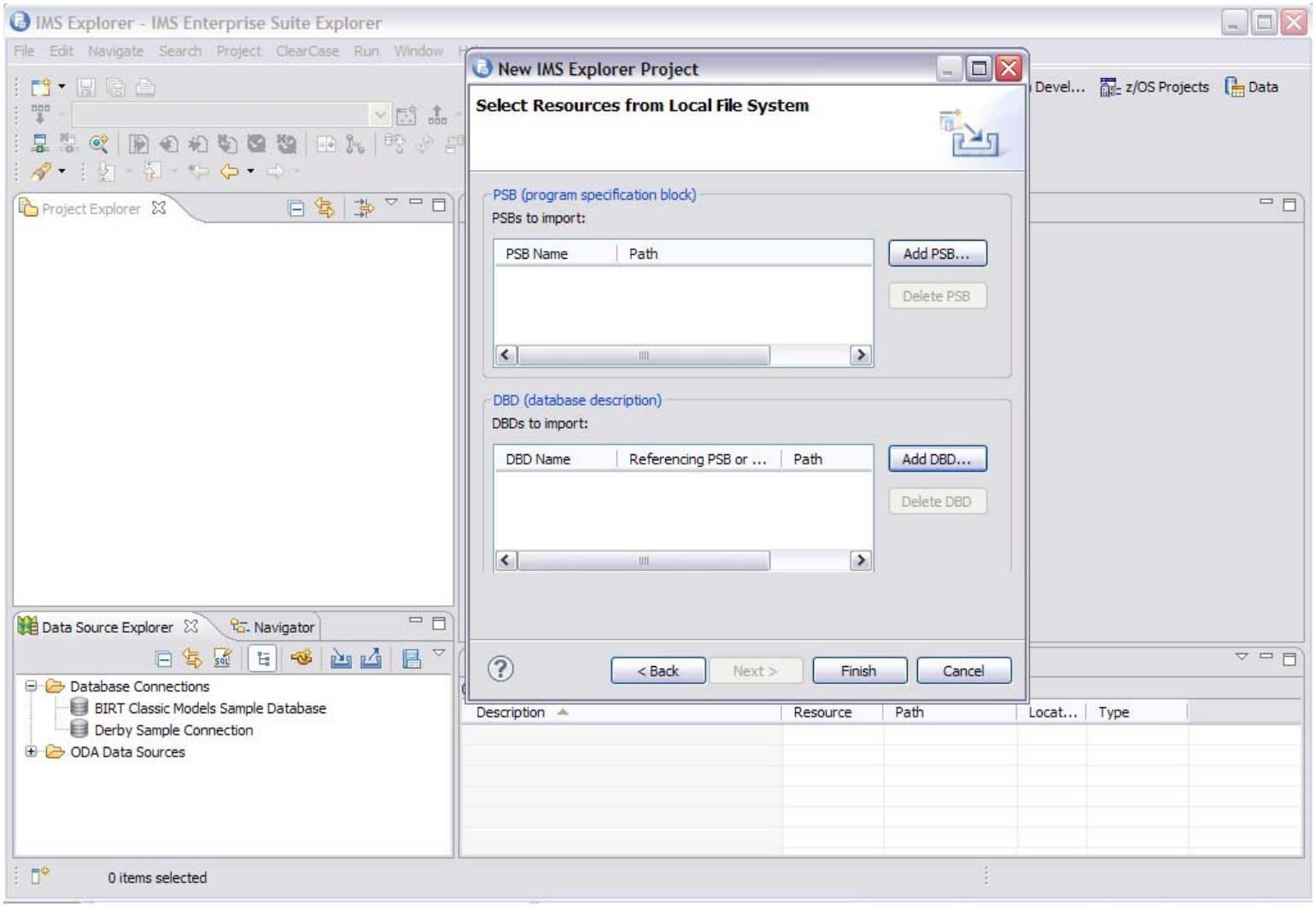
New project



Source import



Source import



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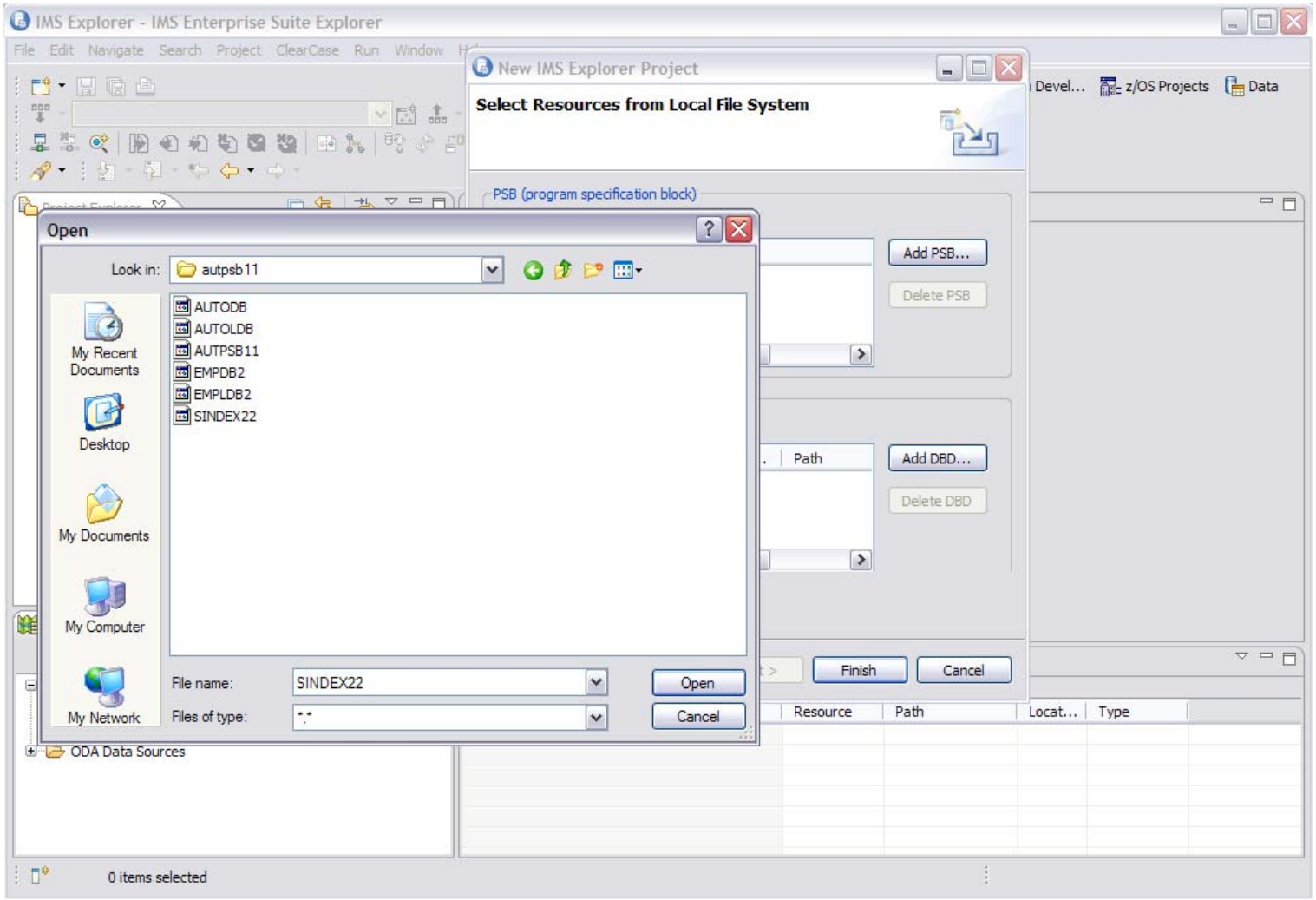
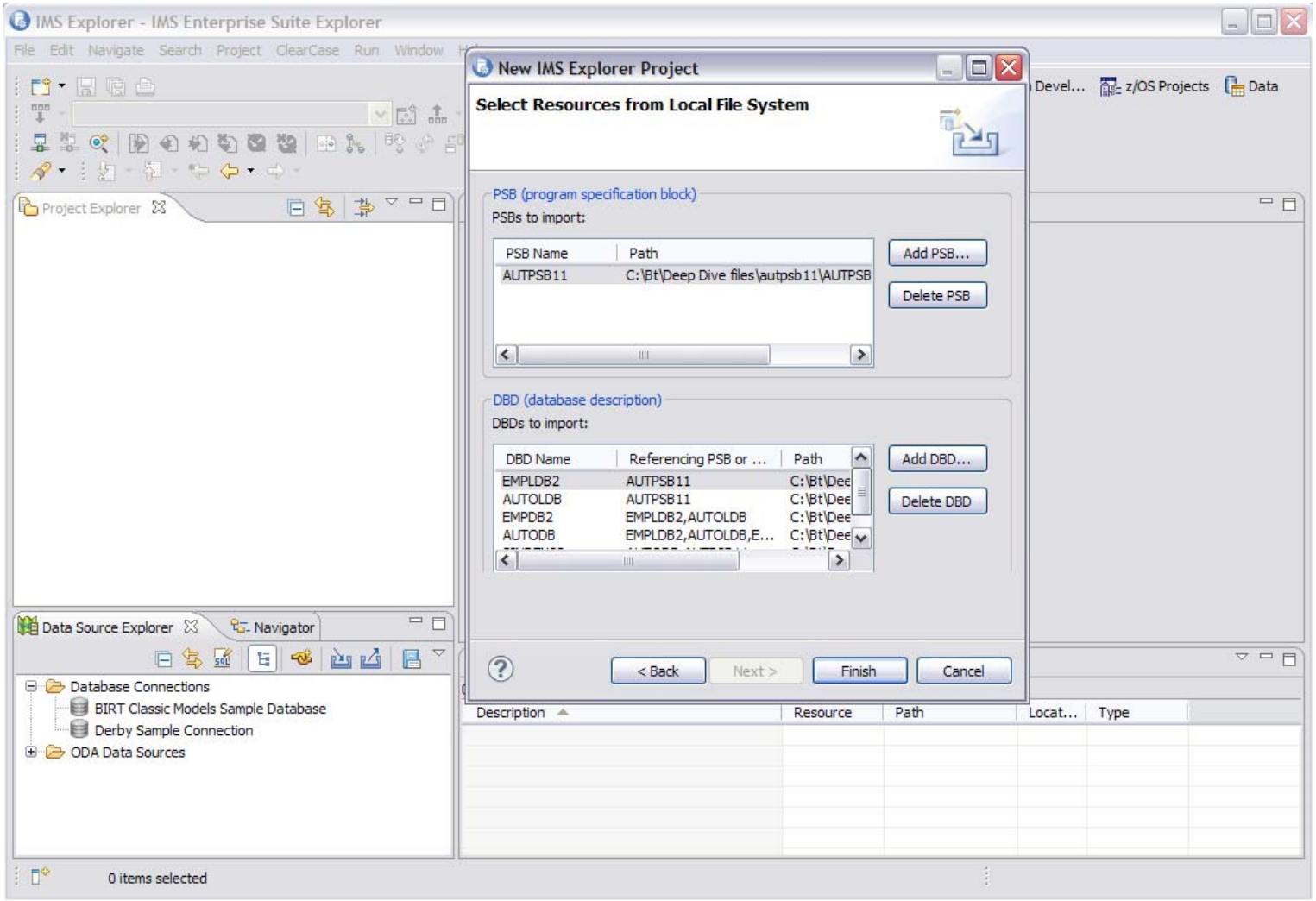
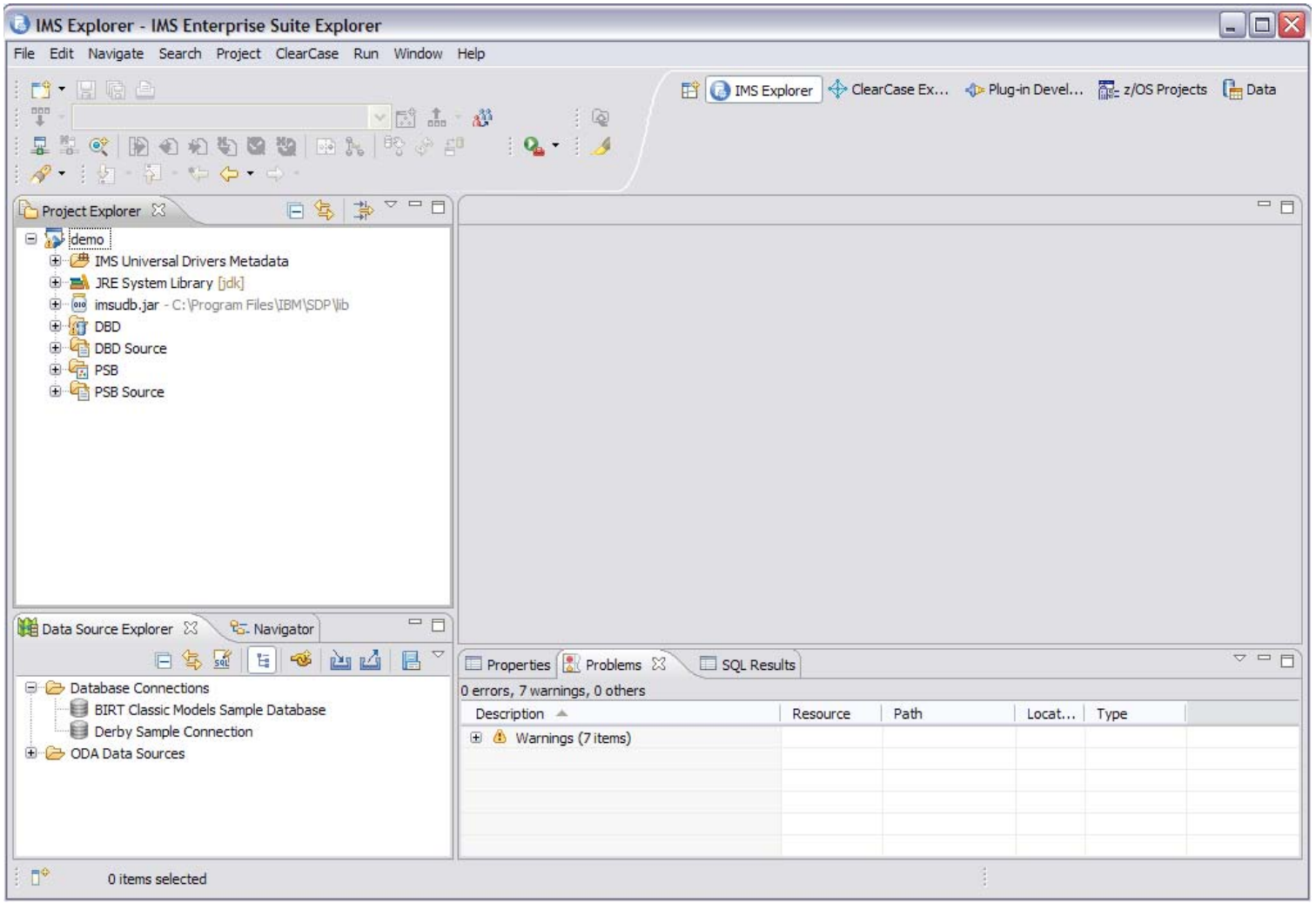


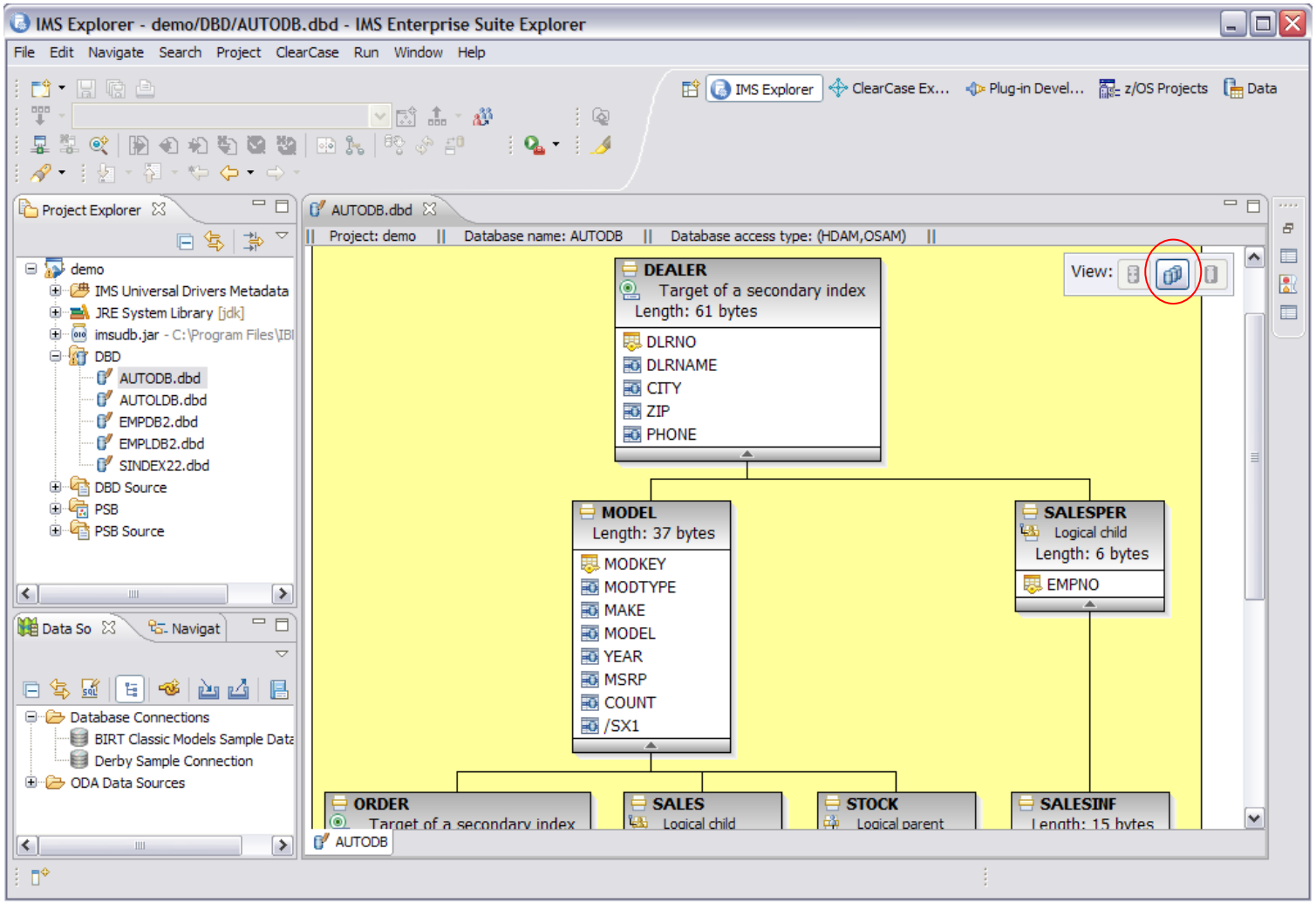
Source import



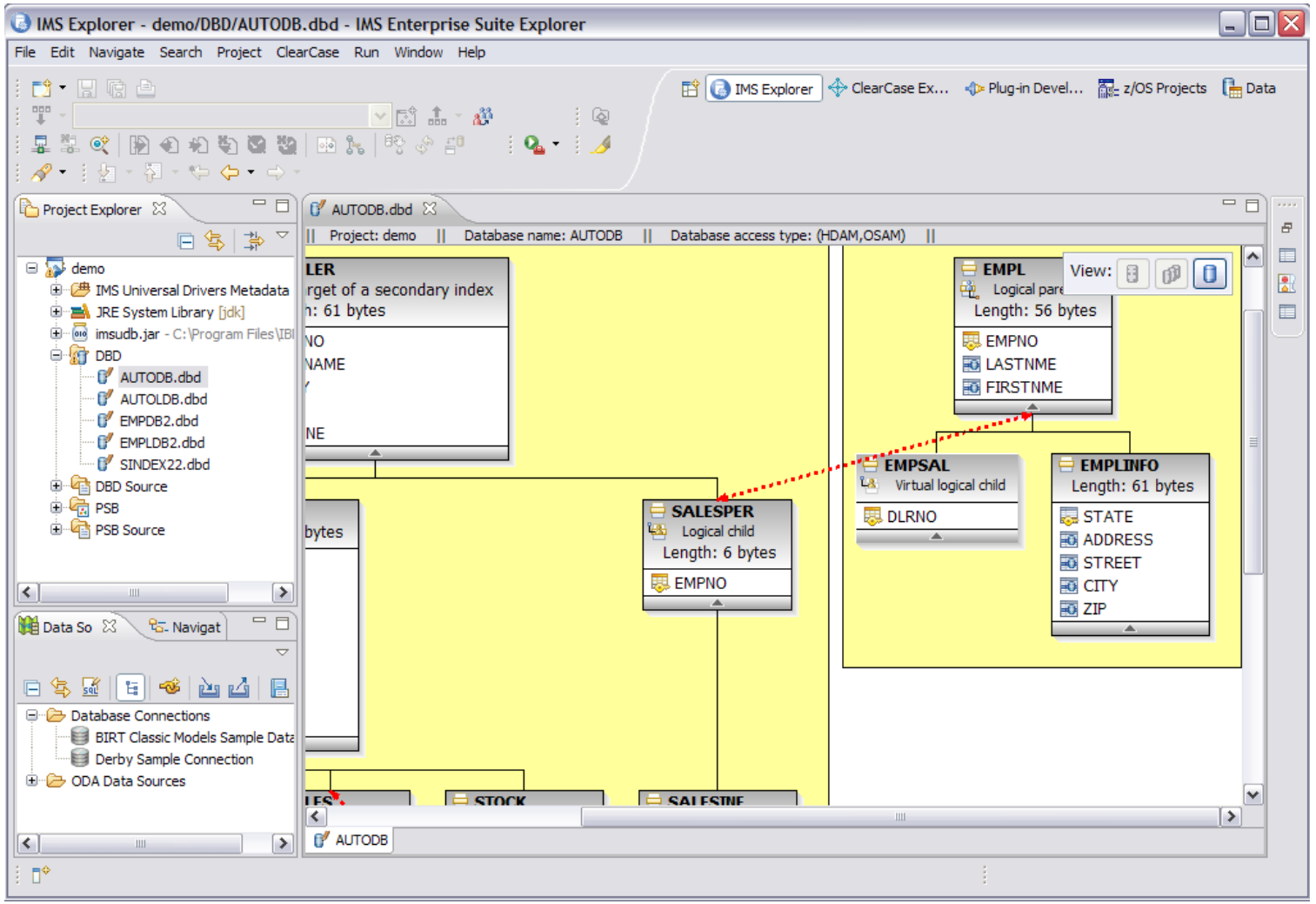
New project created



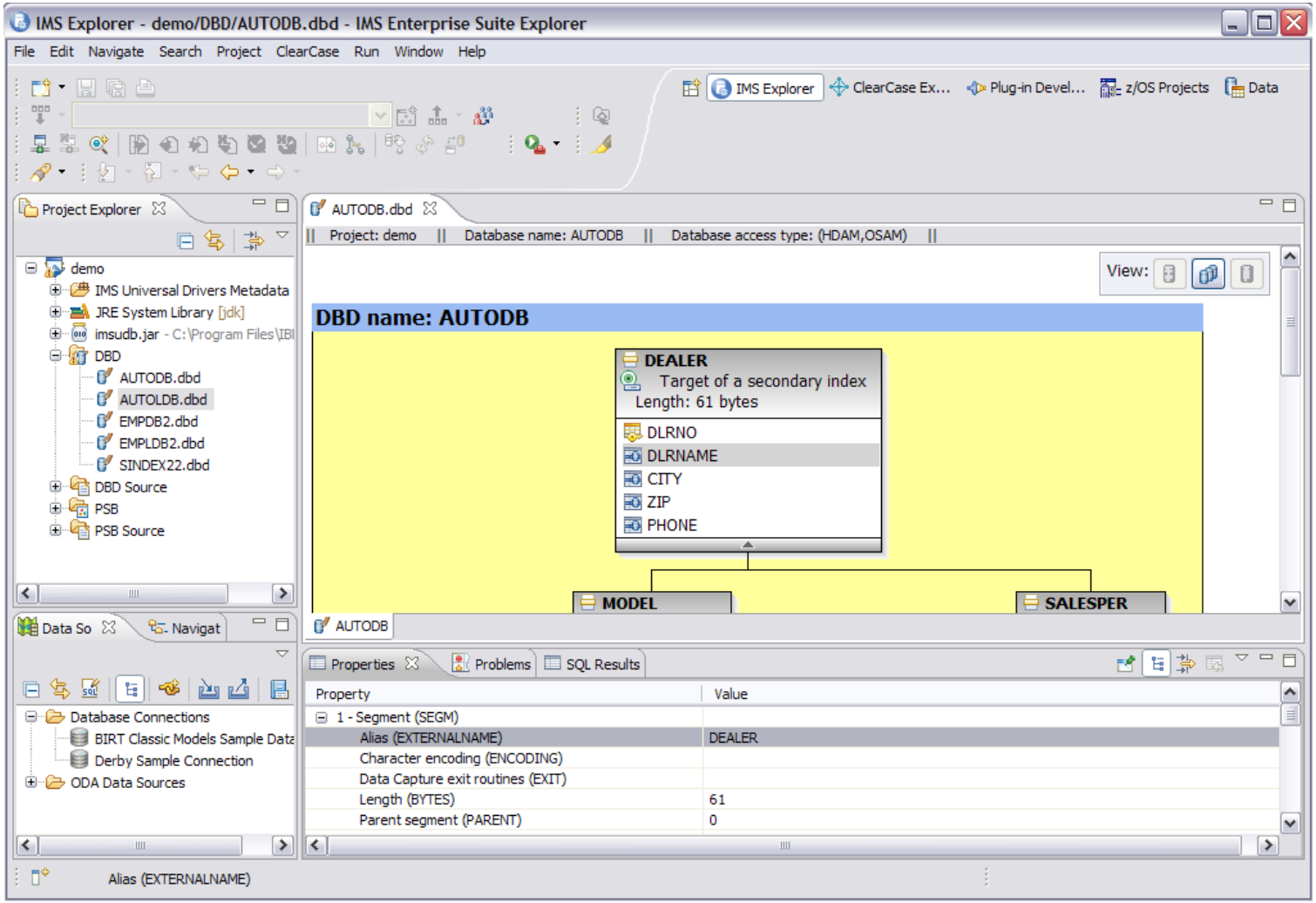
DBD hierarchic graph



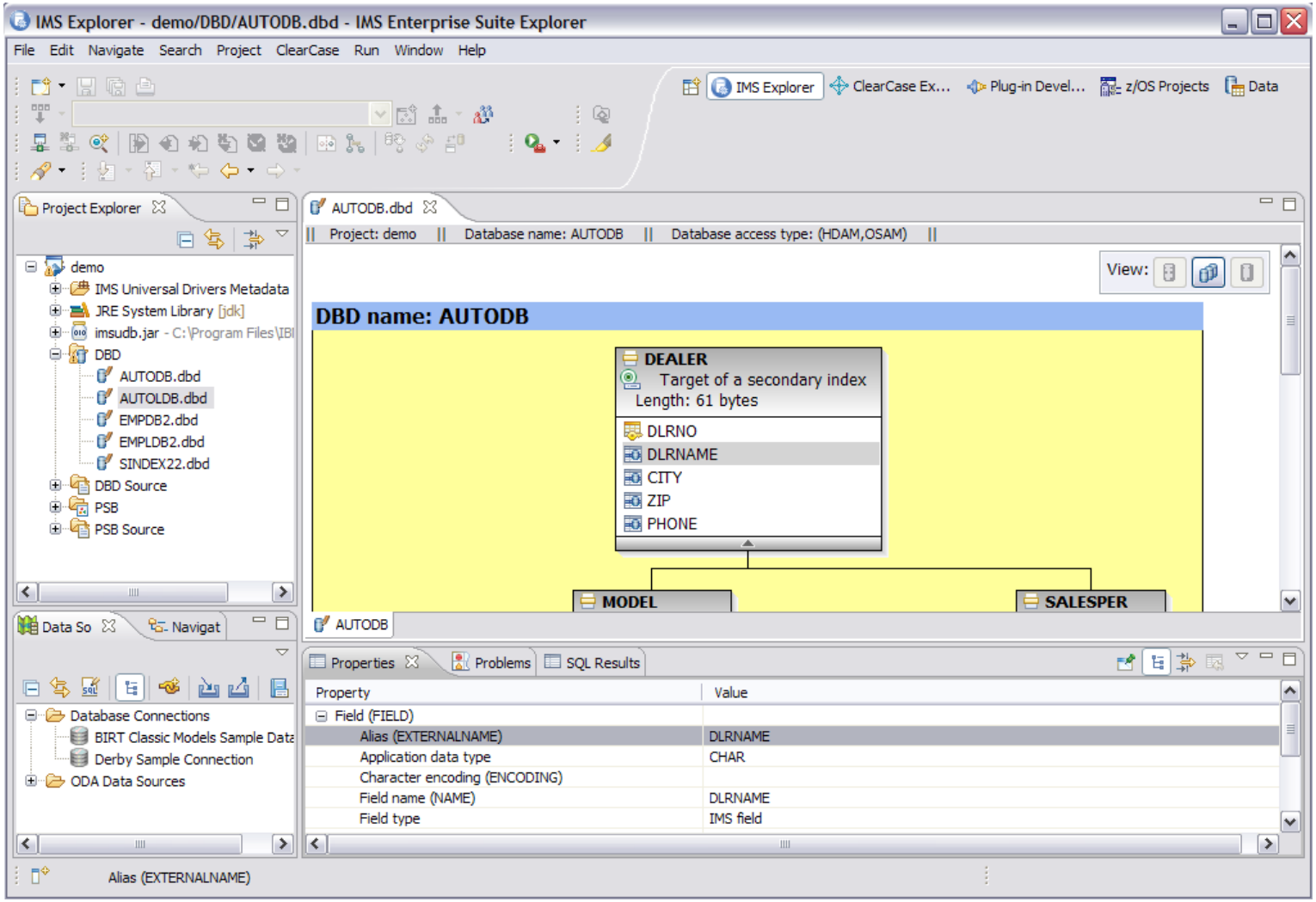
Logical relationships



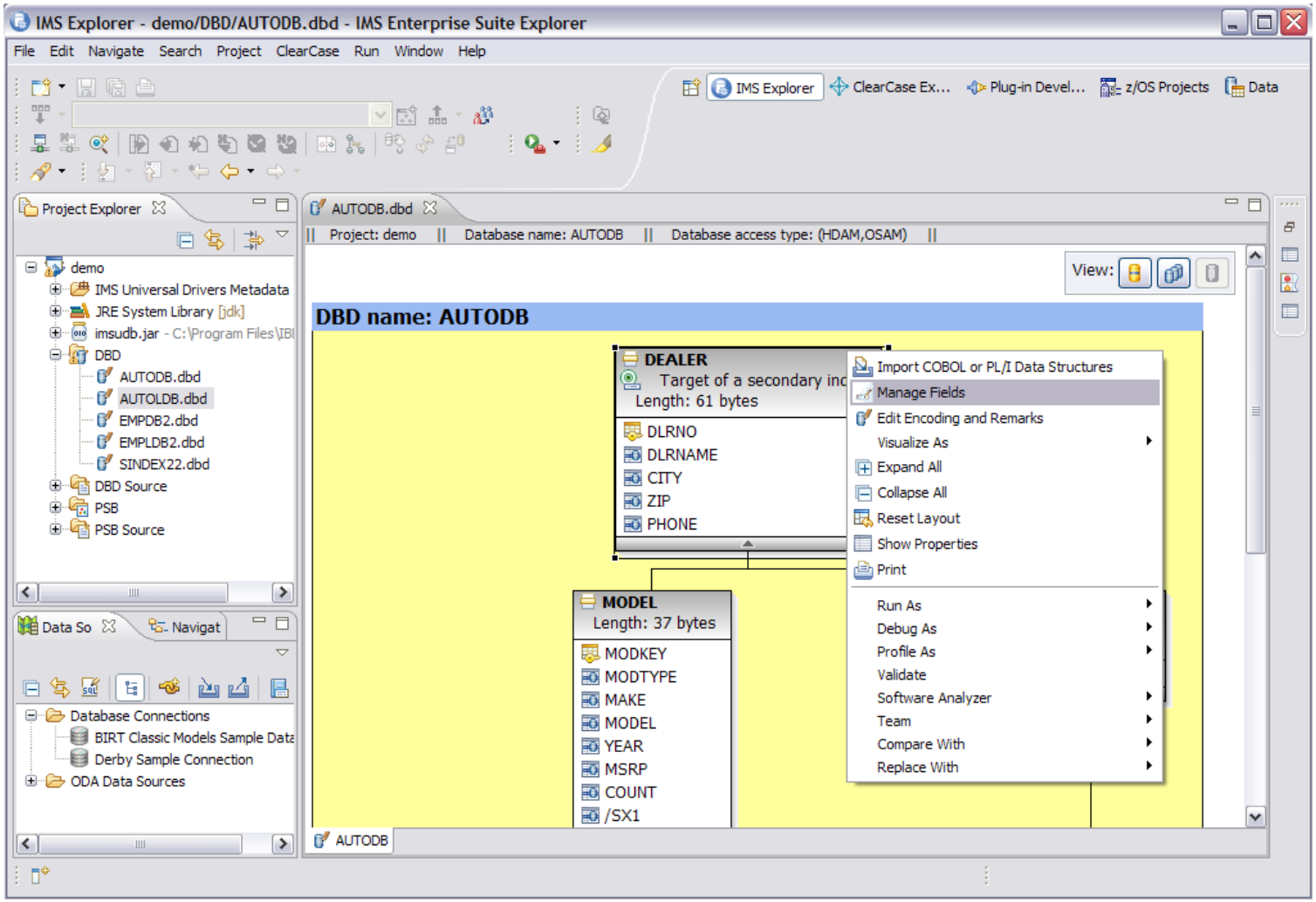
Properties tab



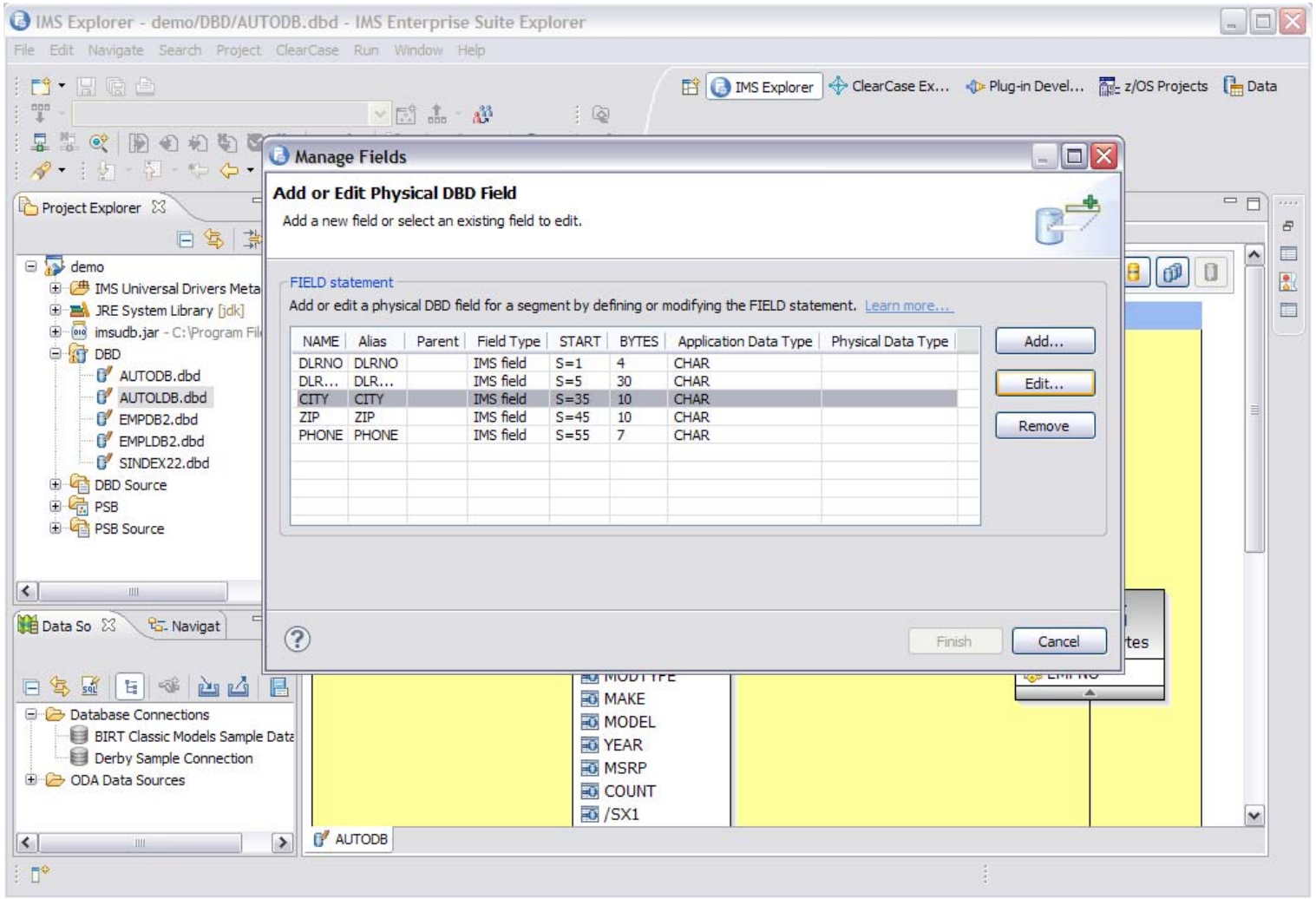
Properties tab



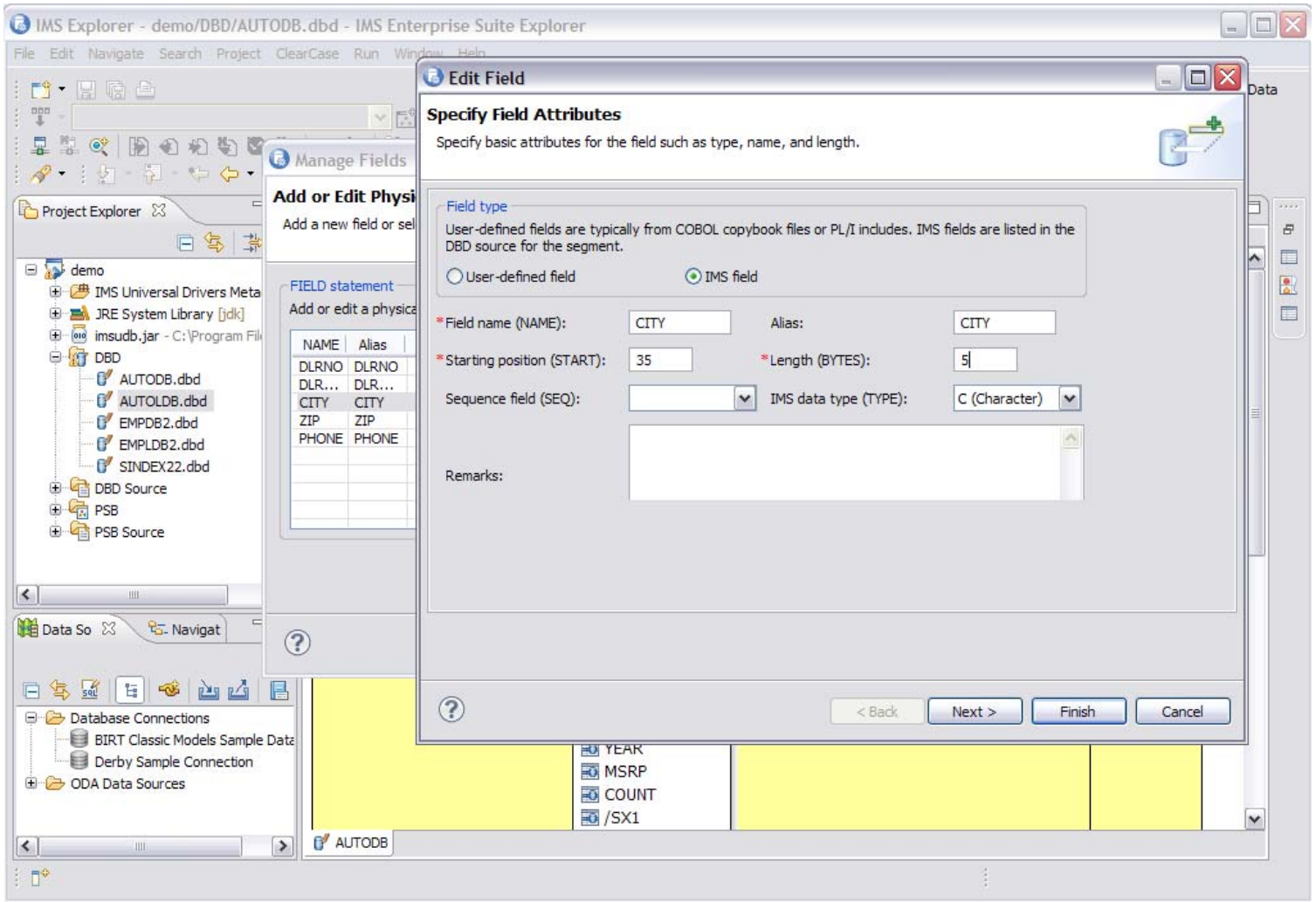
Manage fields



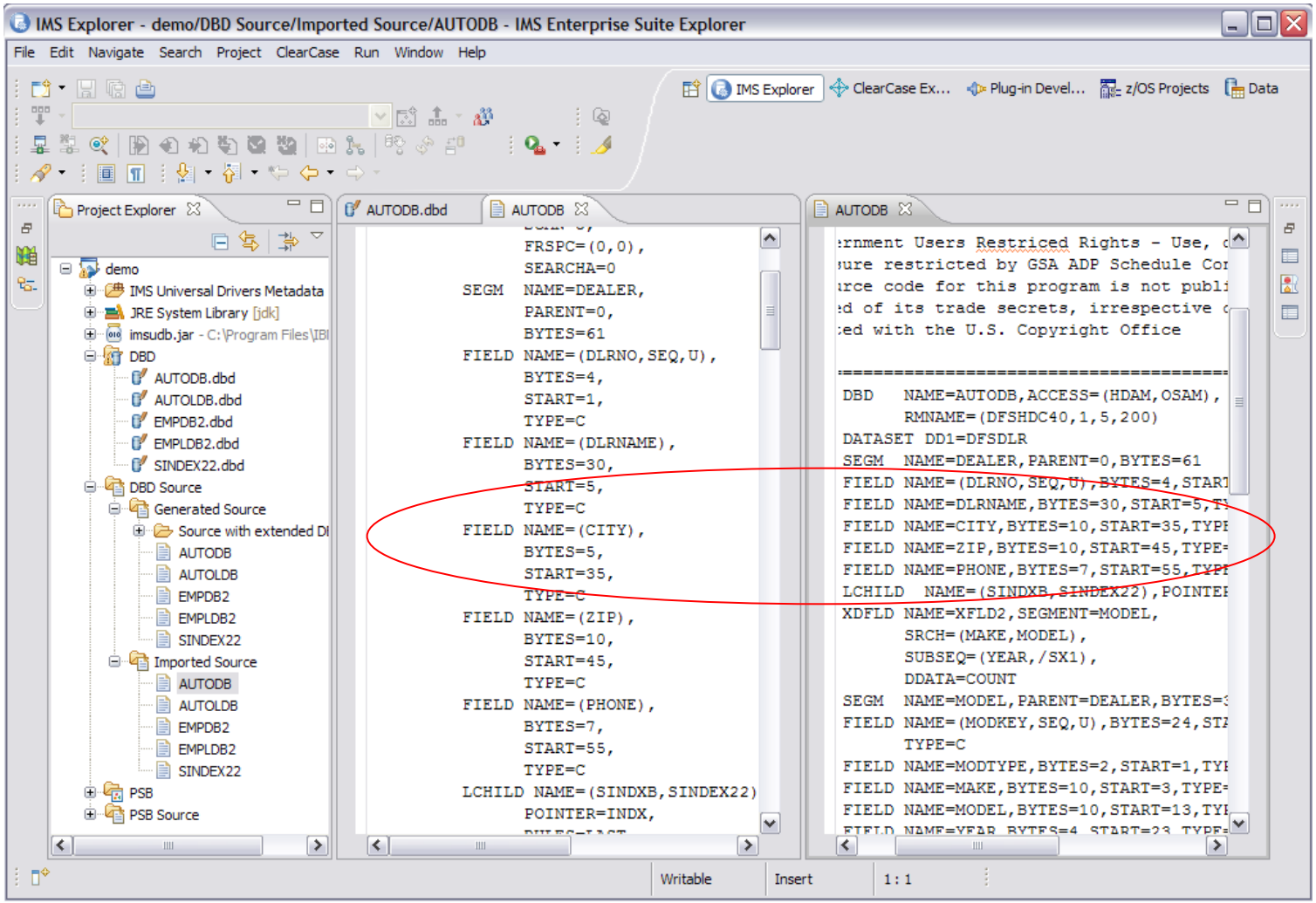
Manage fields



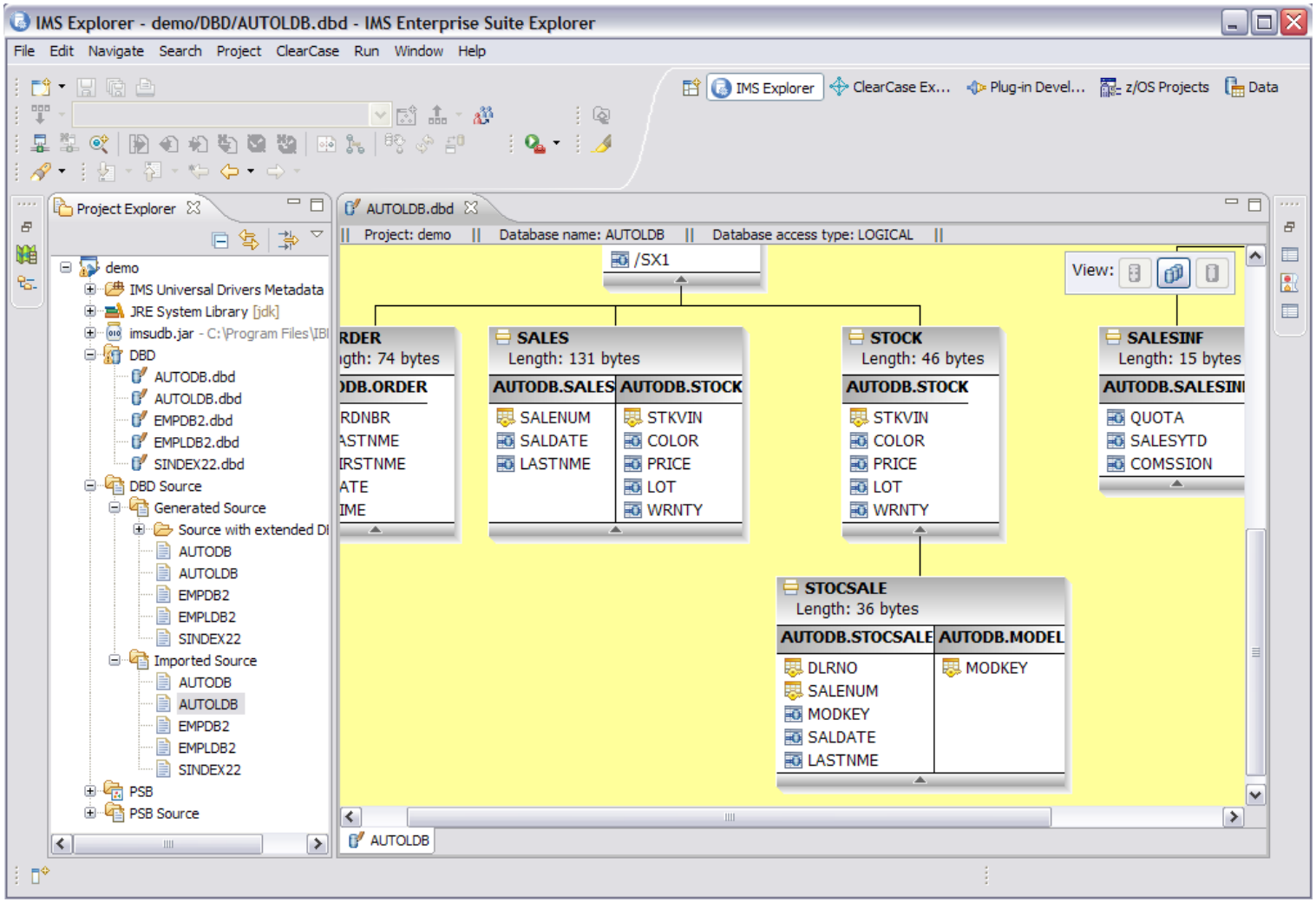
Manage fields



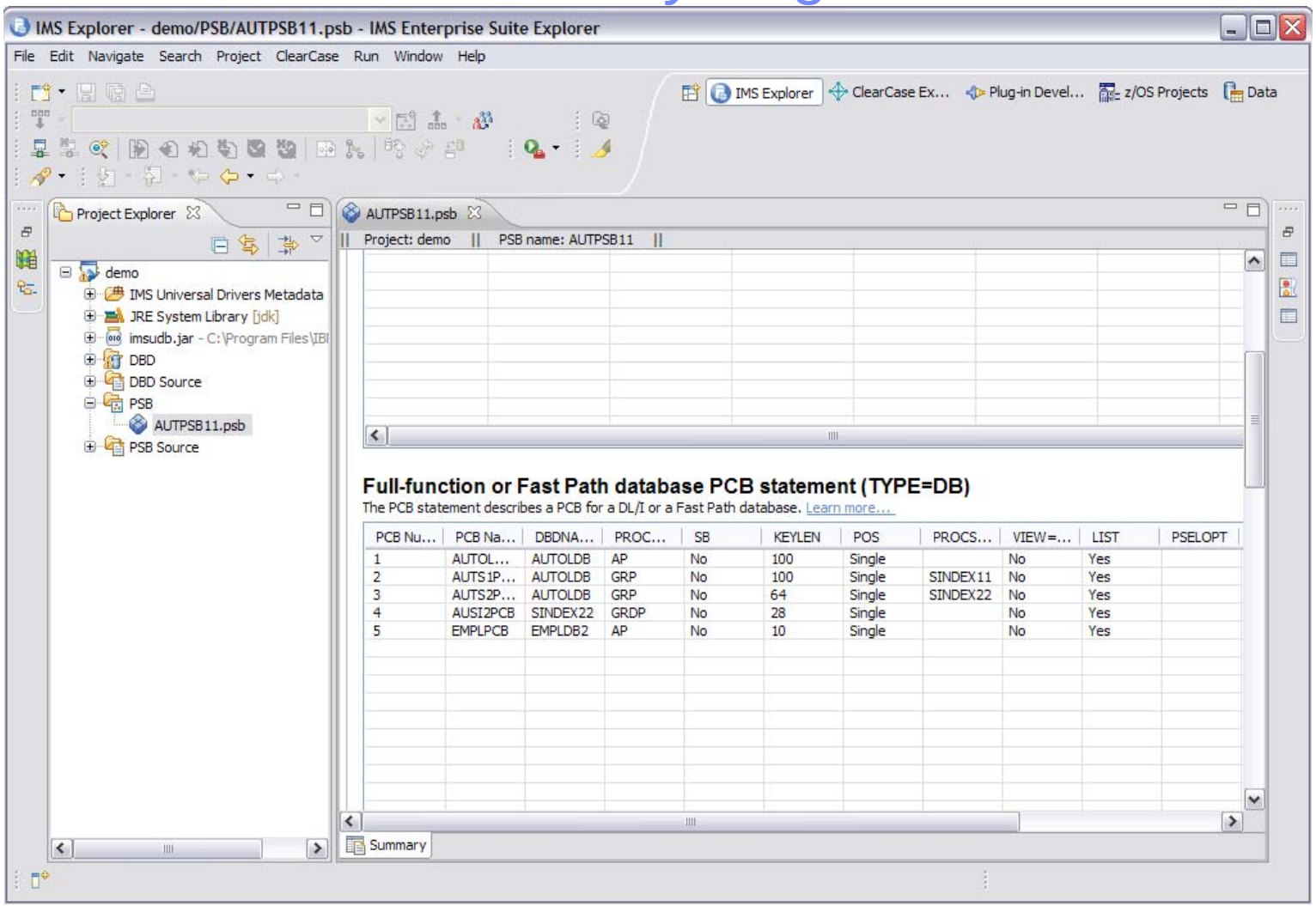
Generated source



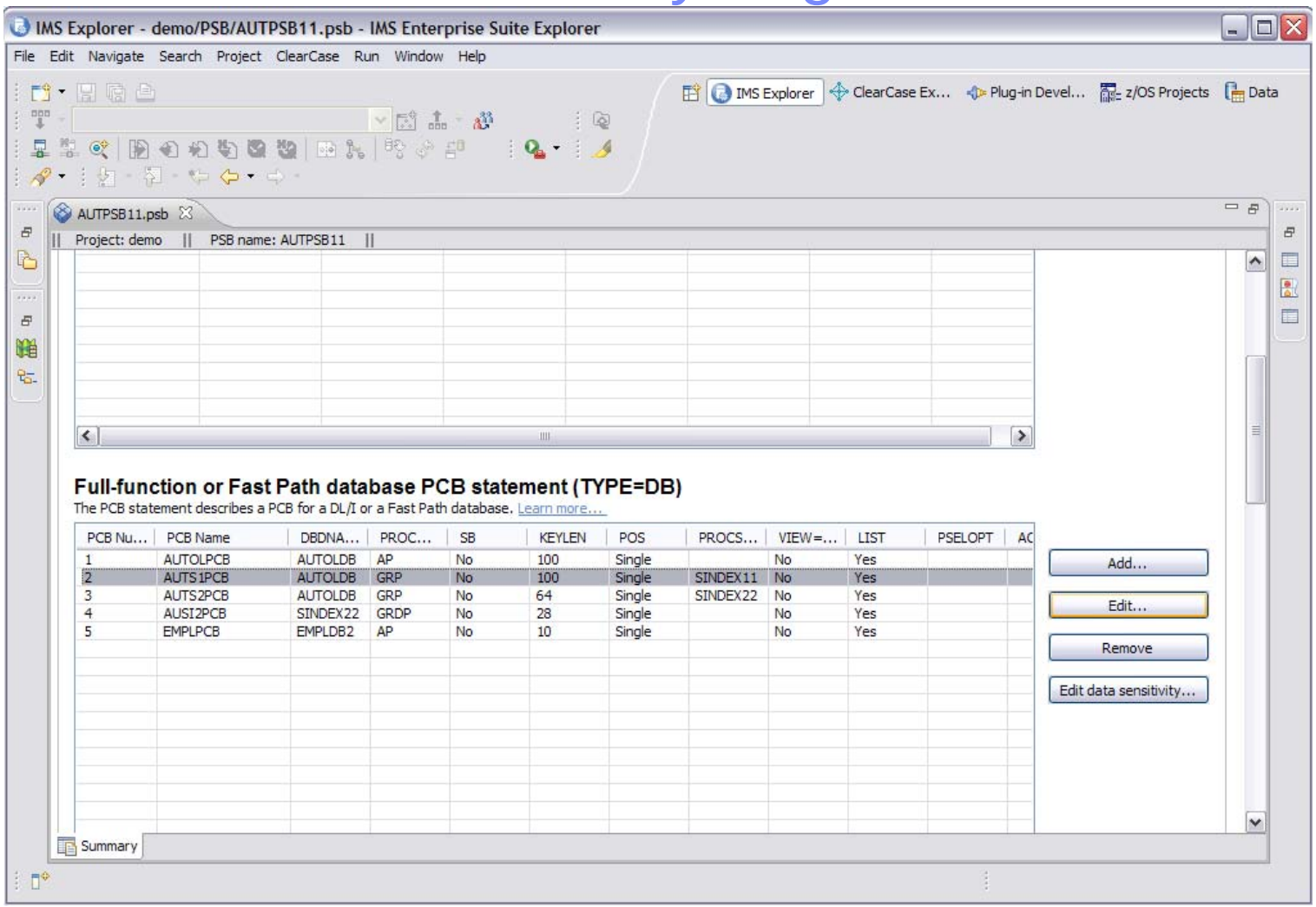
Logical DB, Concatenated segments



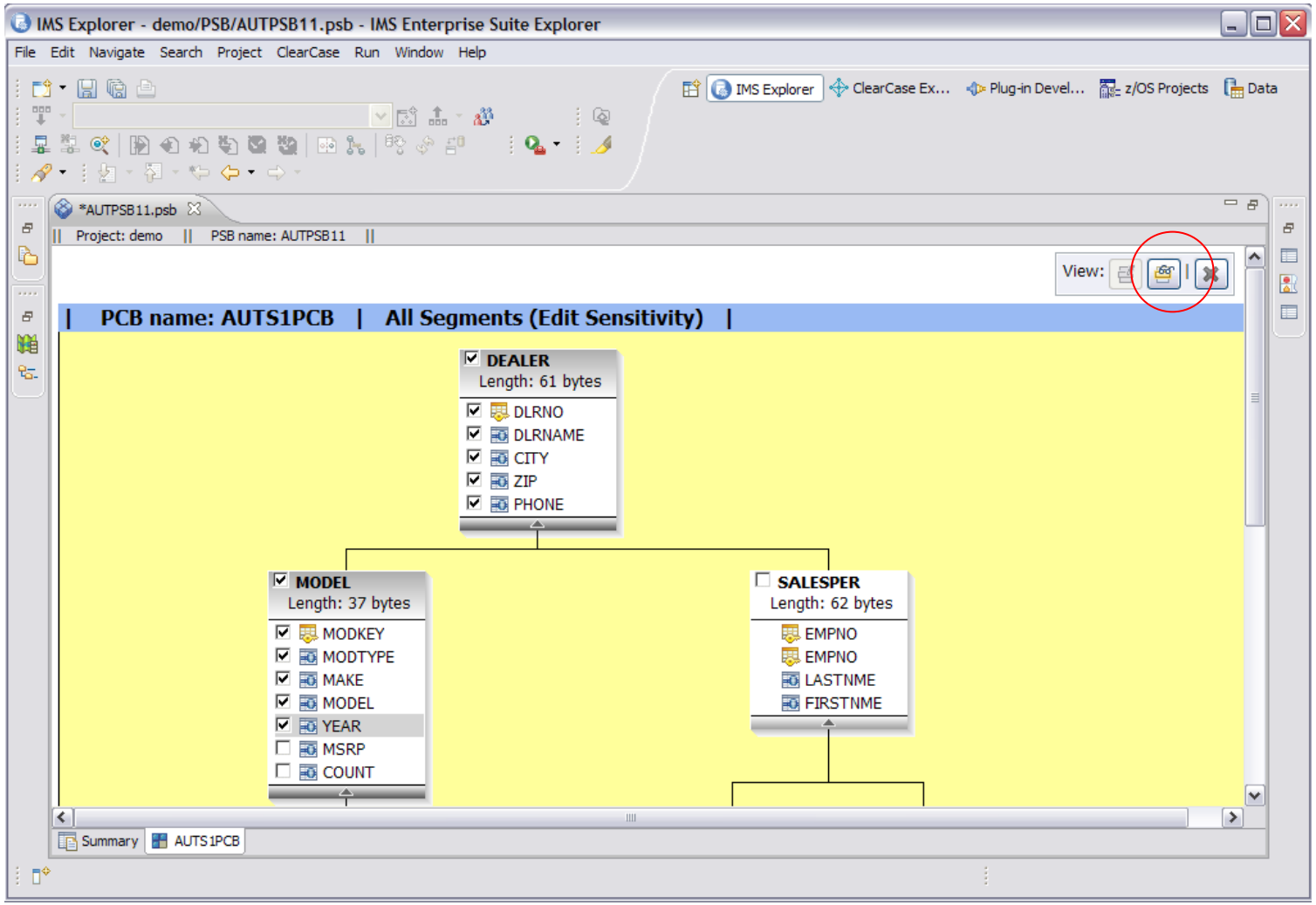
PSB Summary Page



PSB Summary Page



Edit segment/field sensitivity



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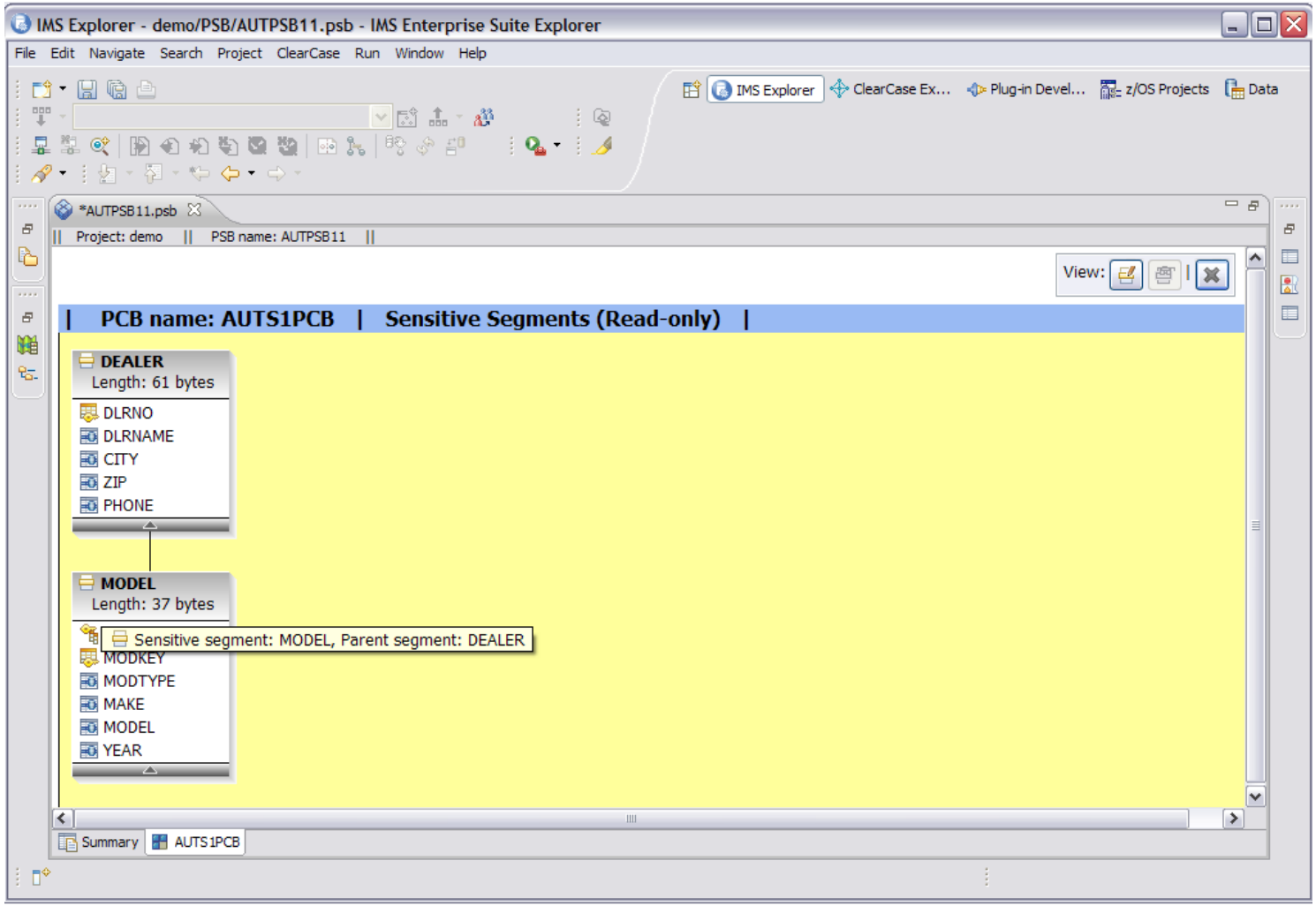
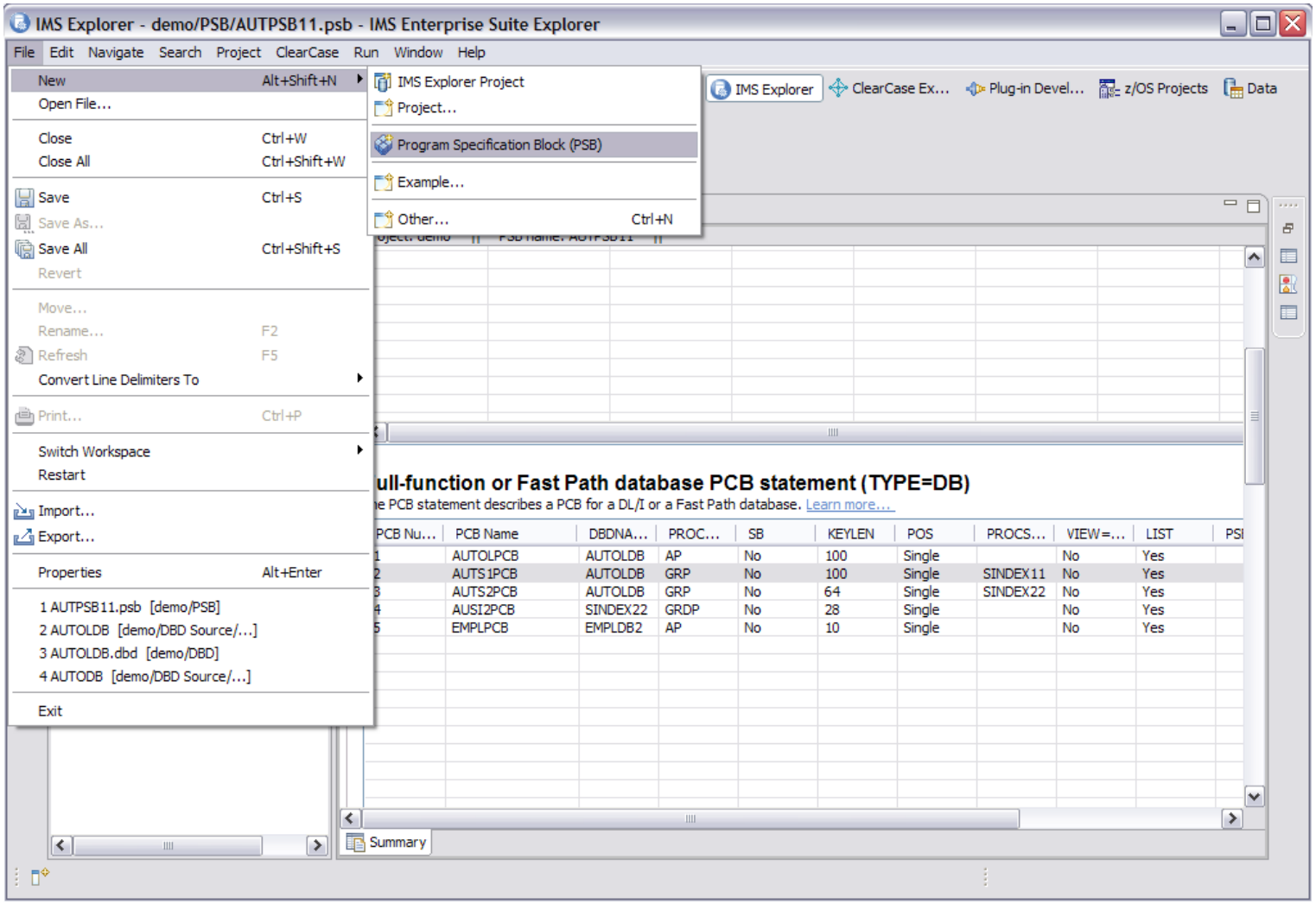


Create new PSB



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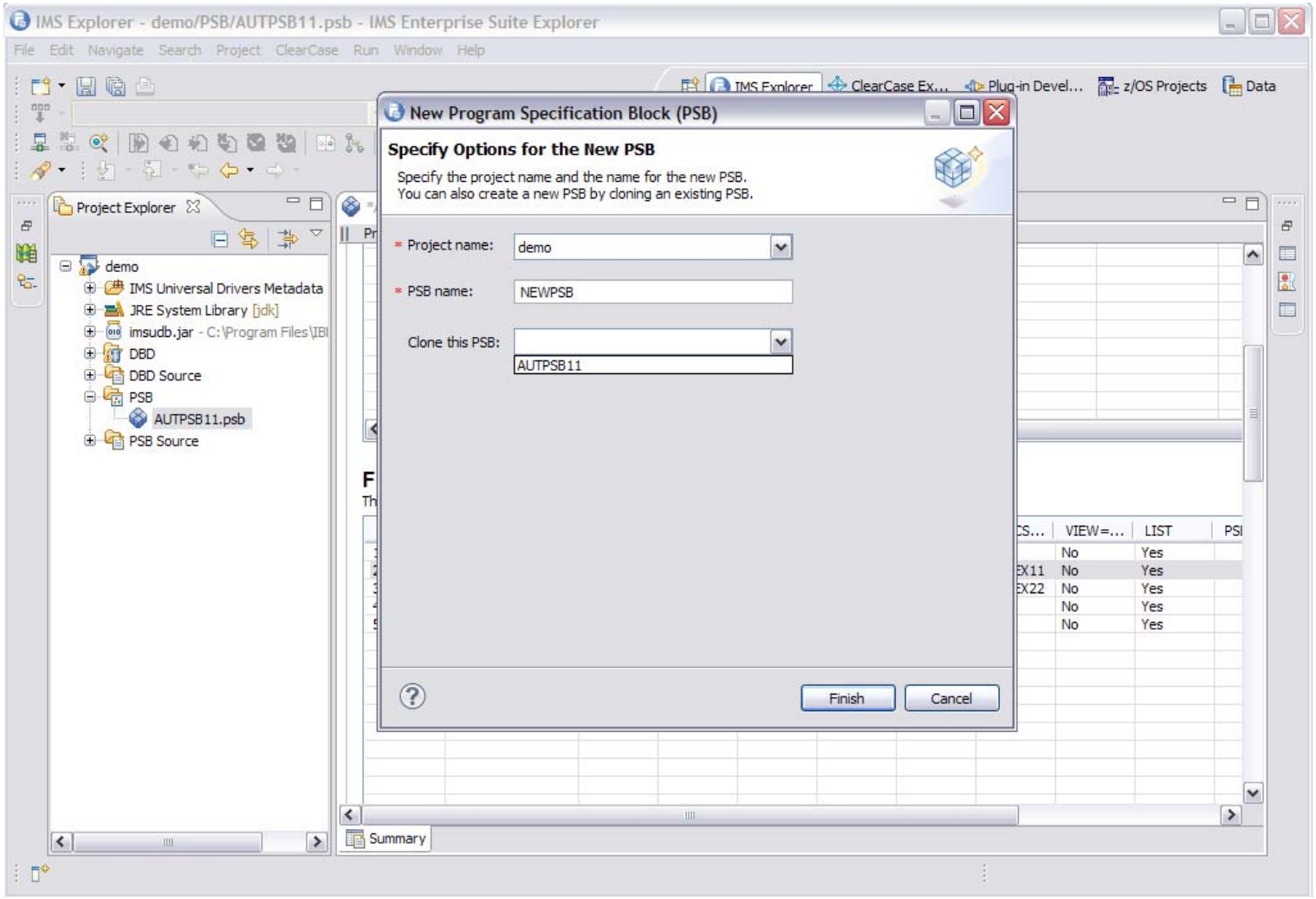
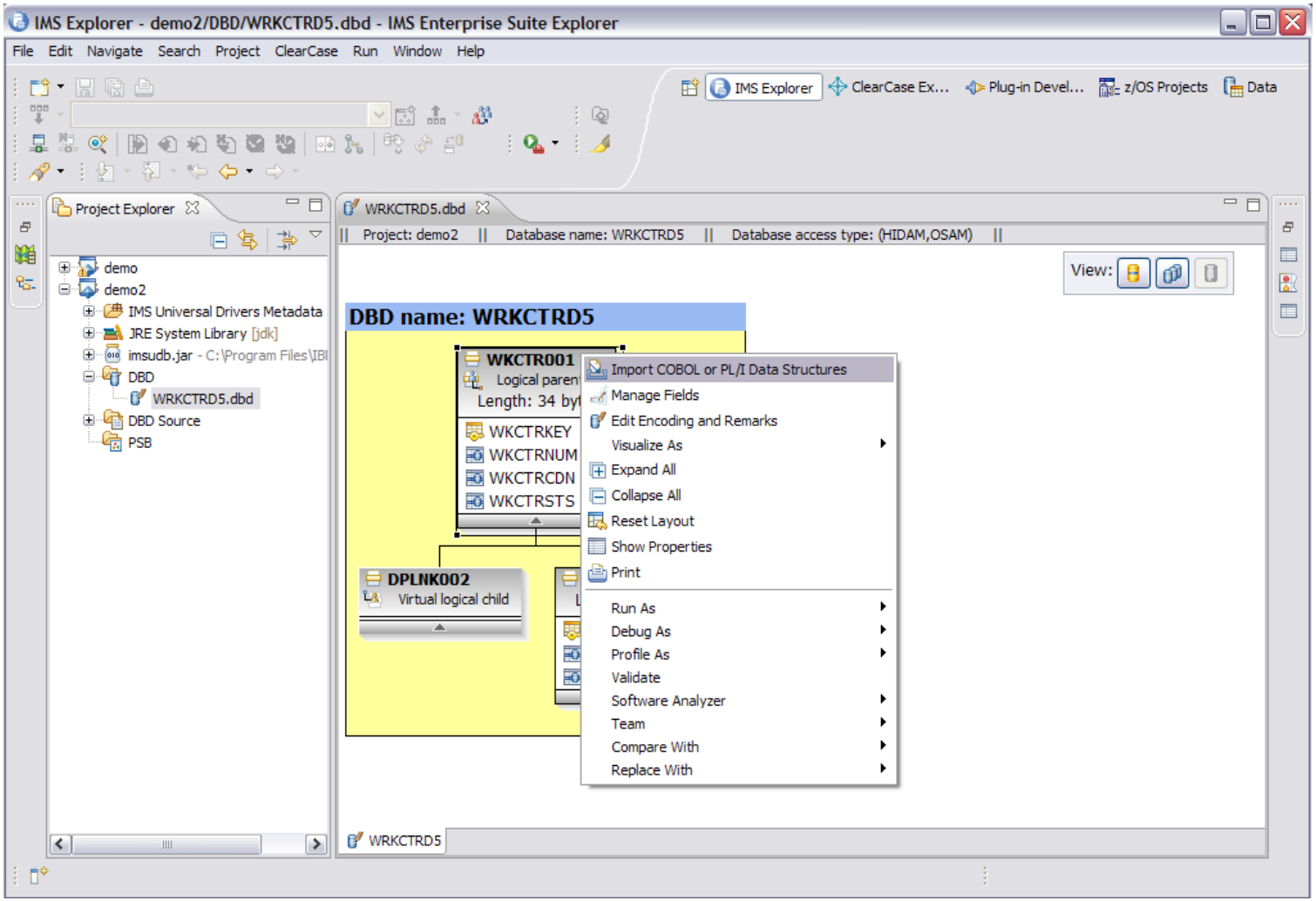


Import copybook structure



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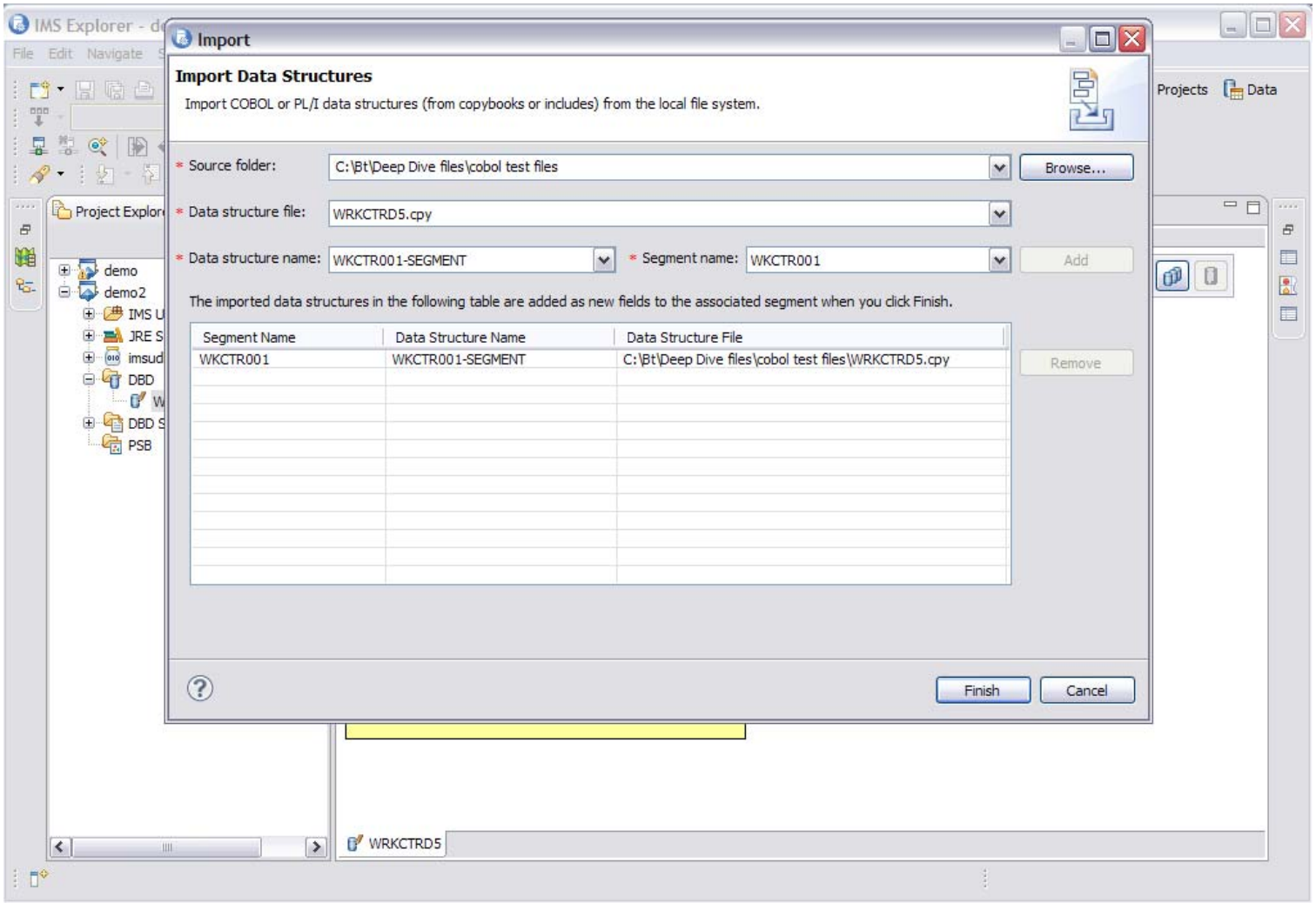
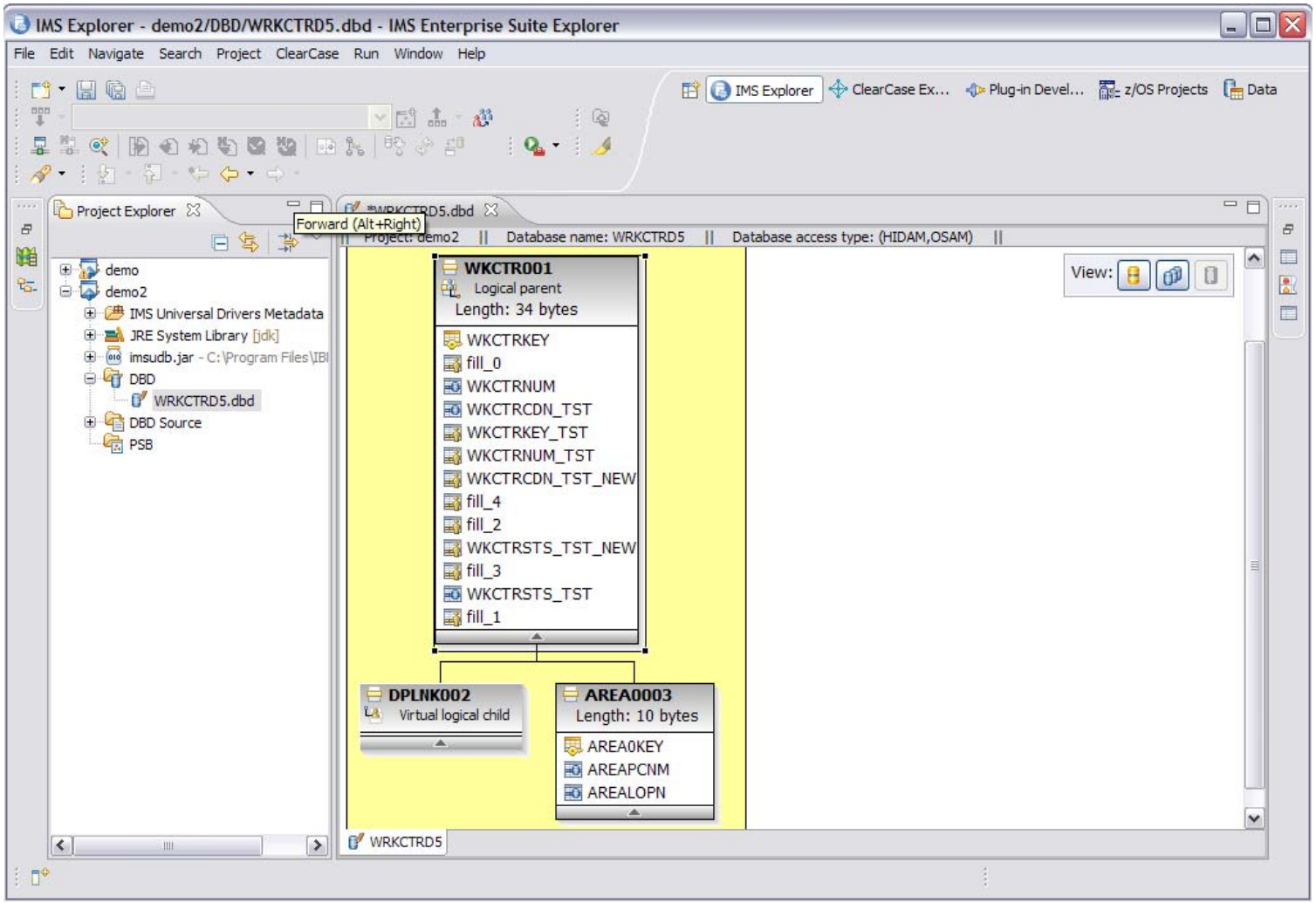
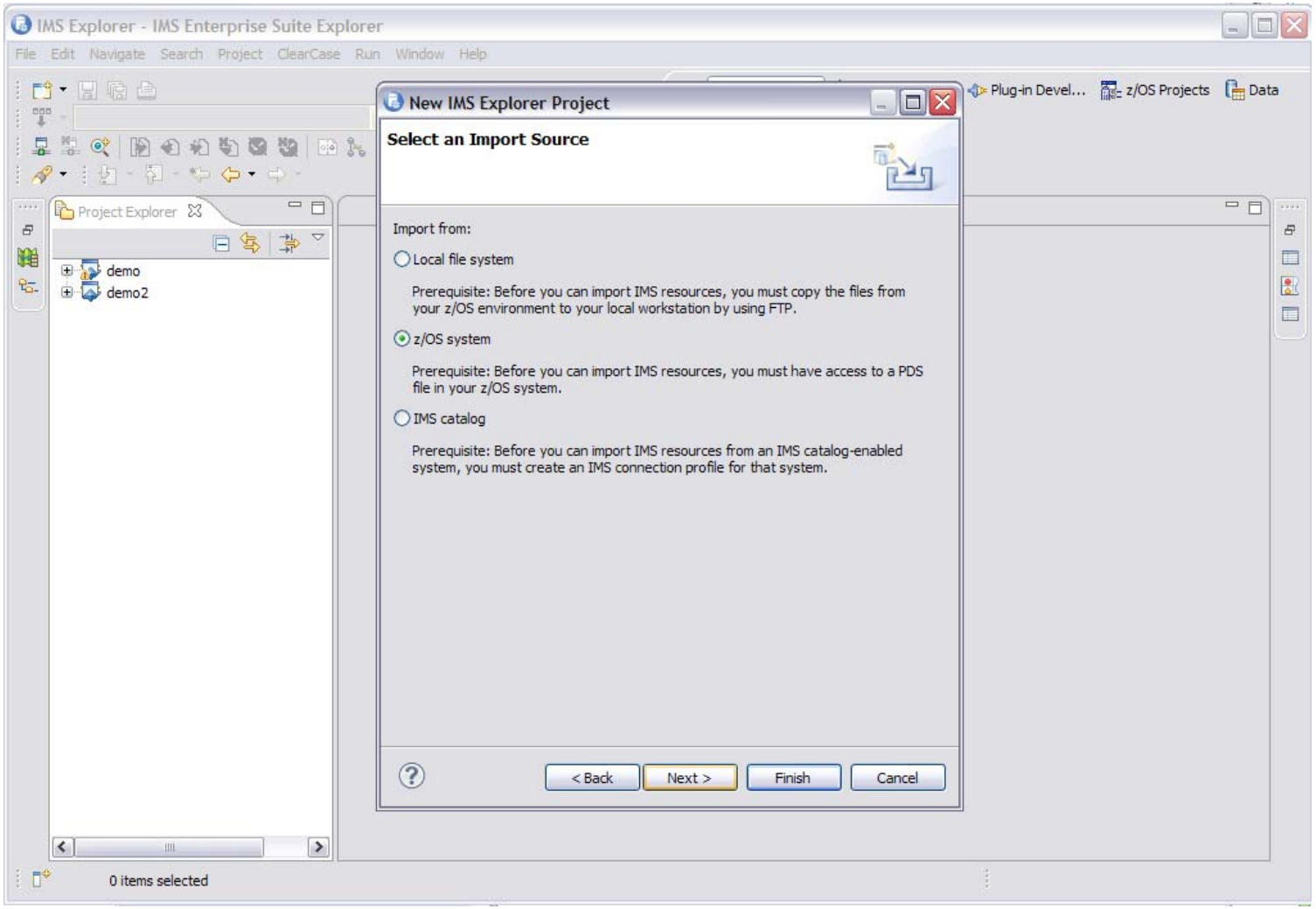


Import copybook structure



Import from z/OS



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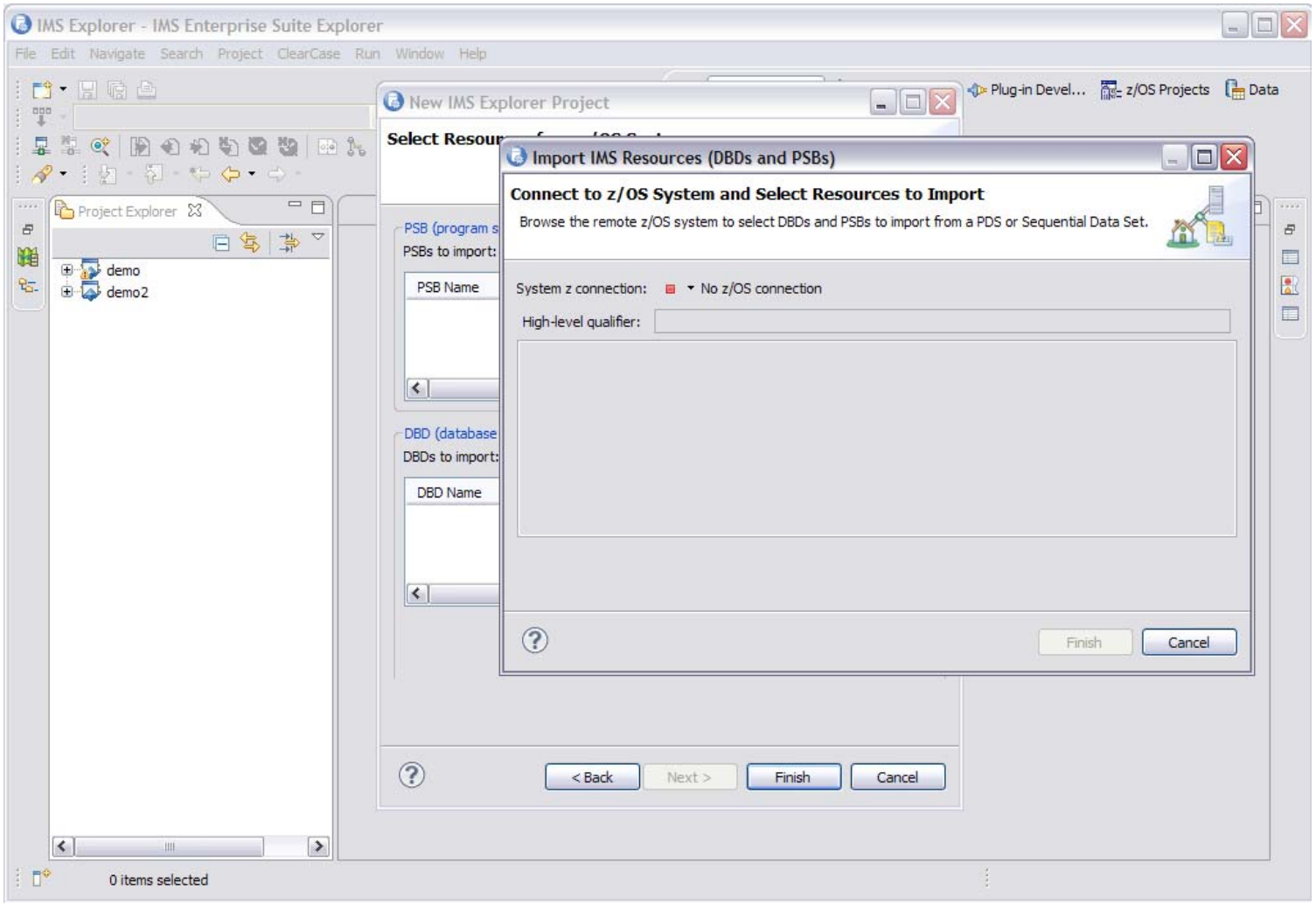
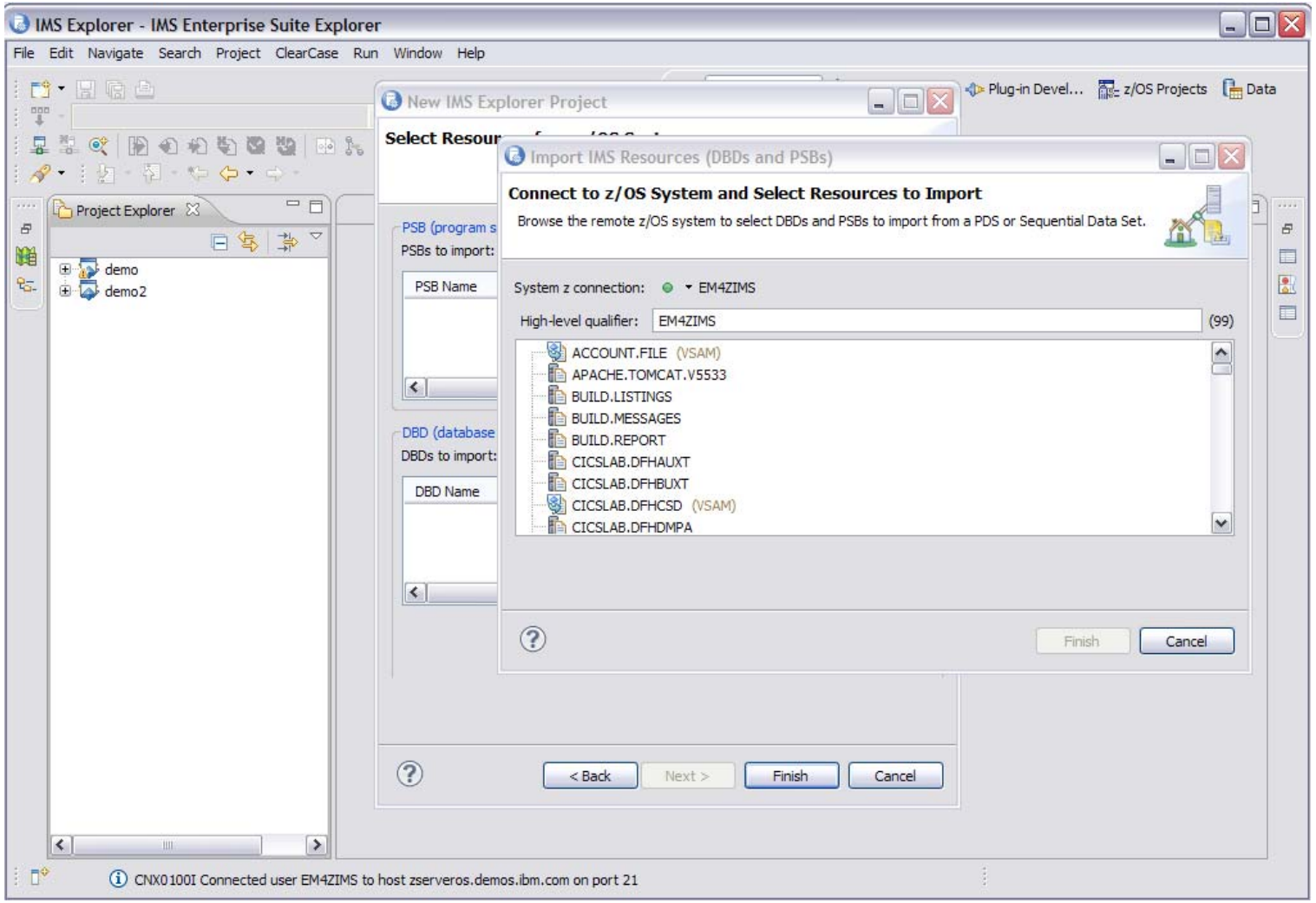
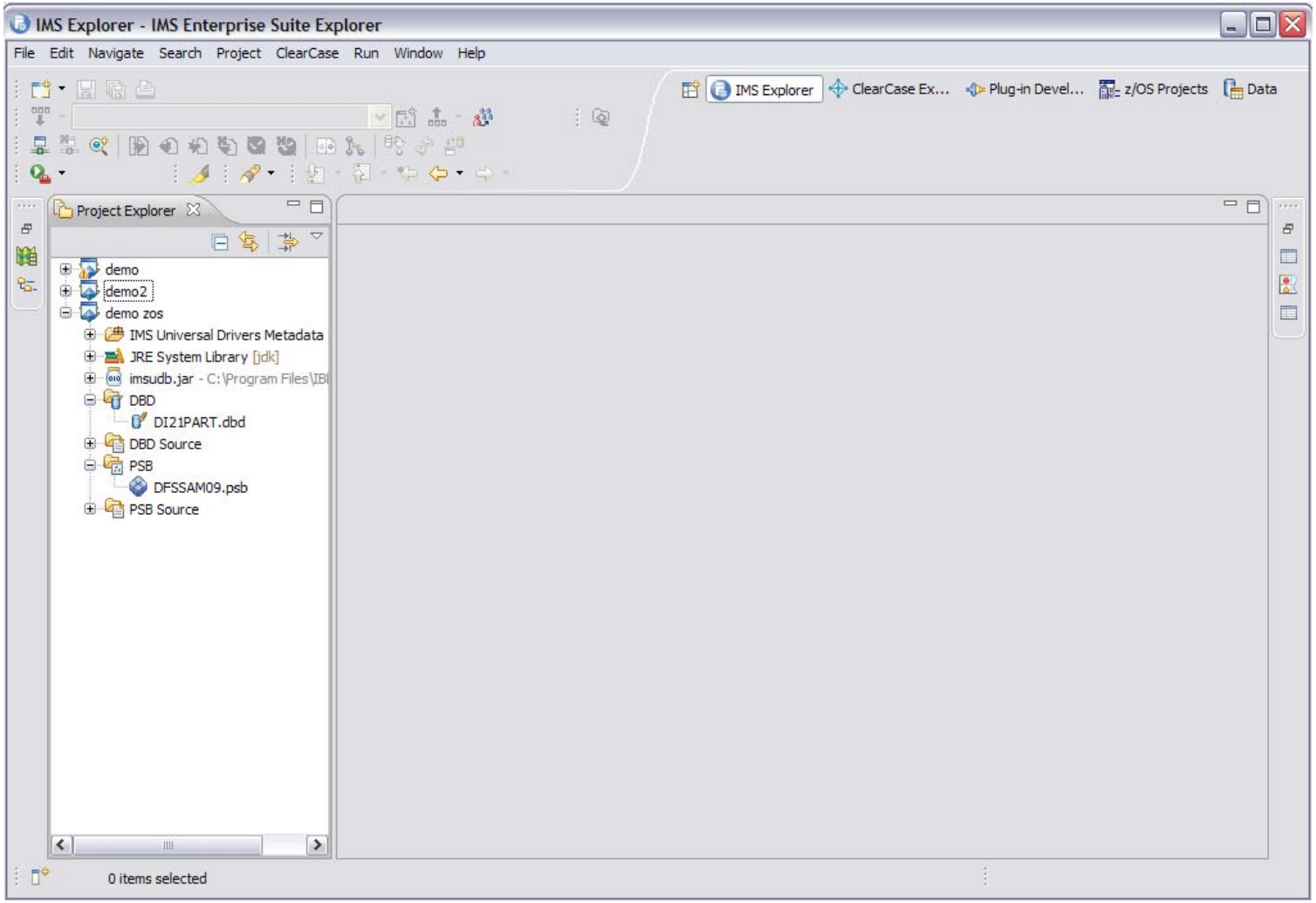


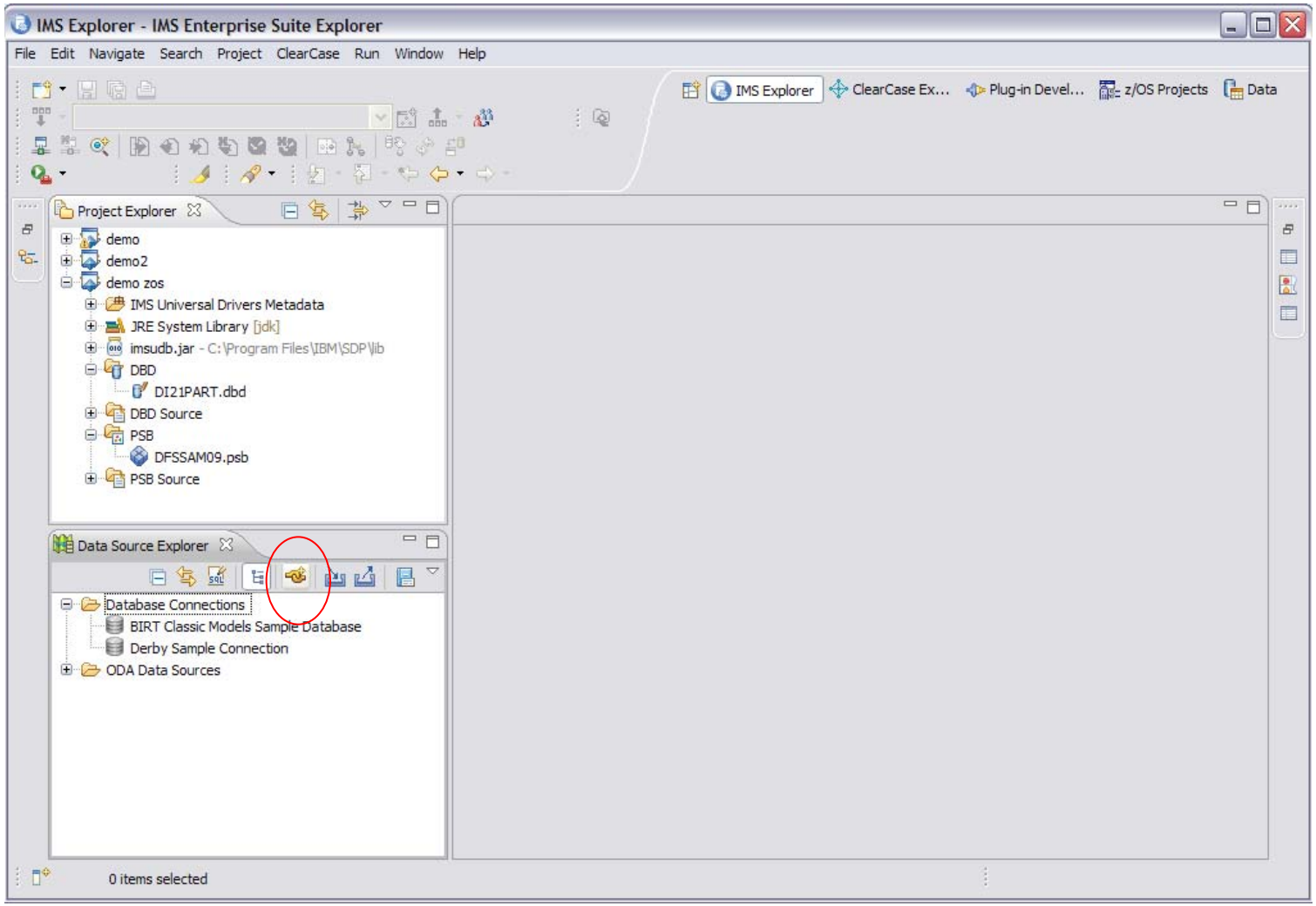
Import from z/OS



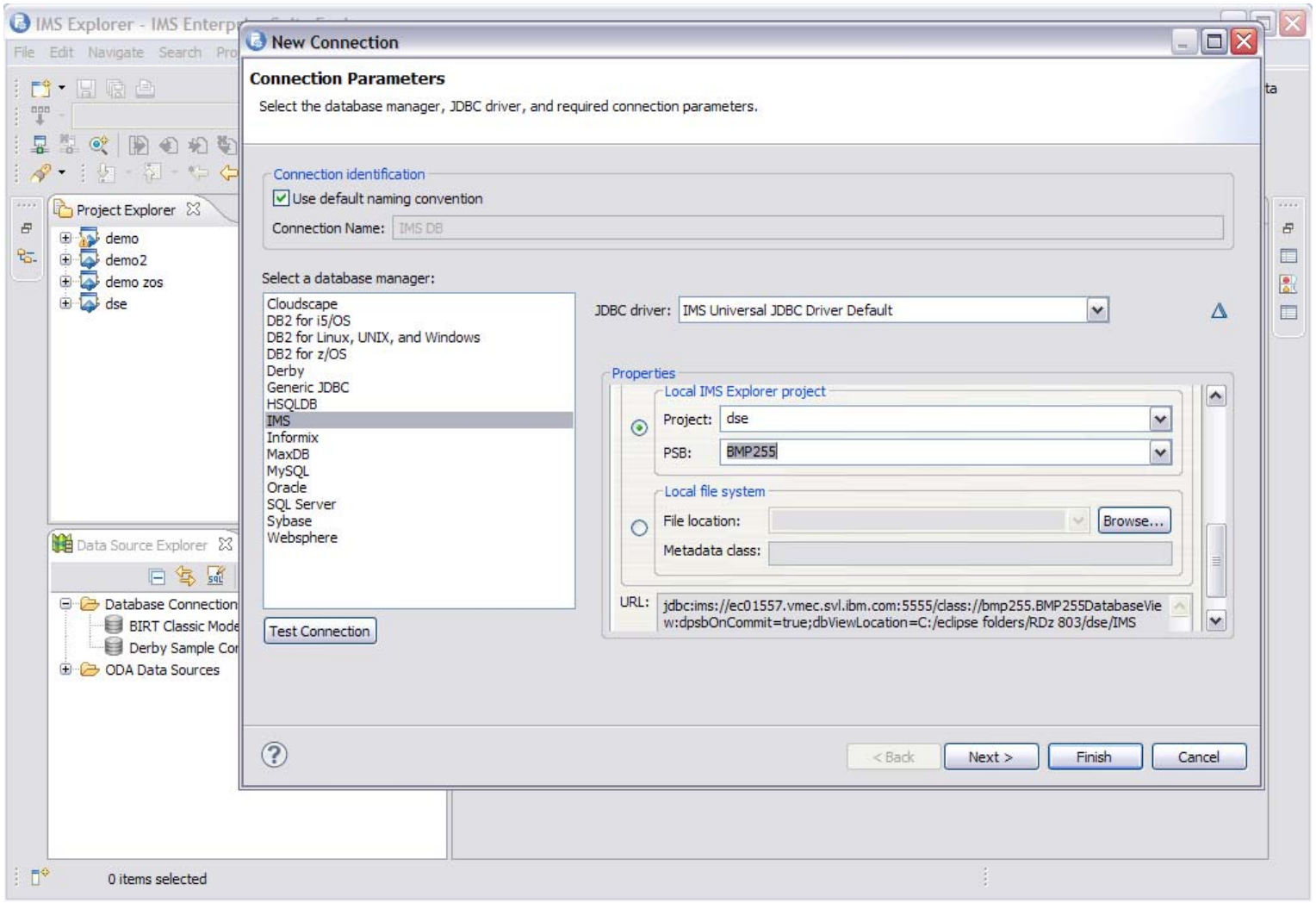
Import from z/OS



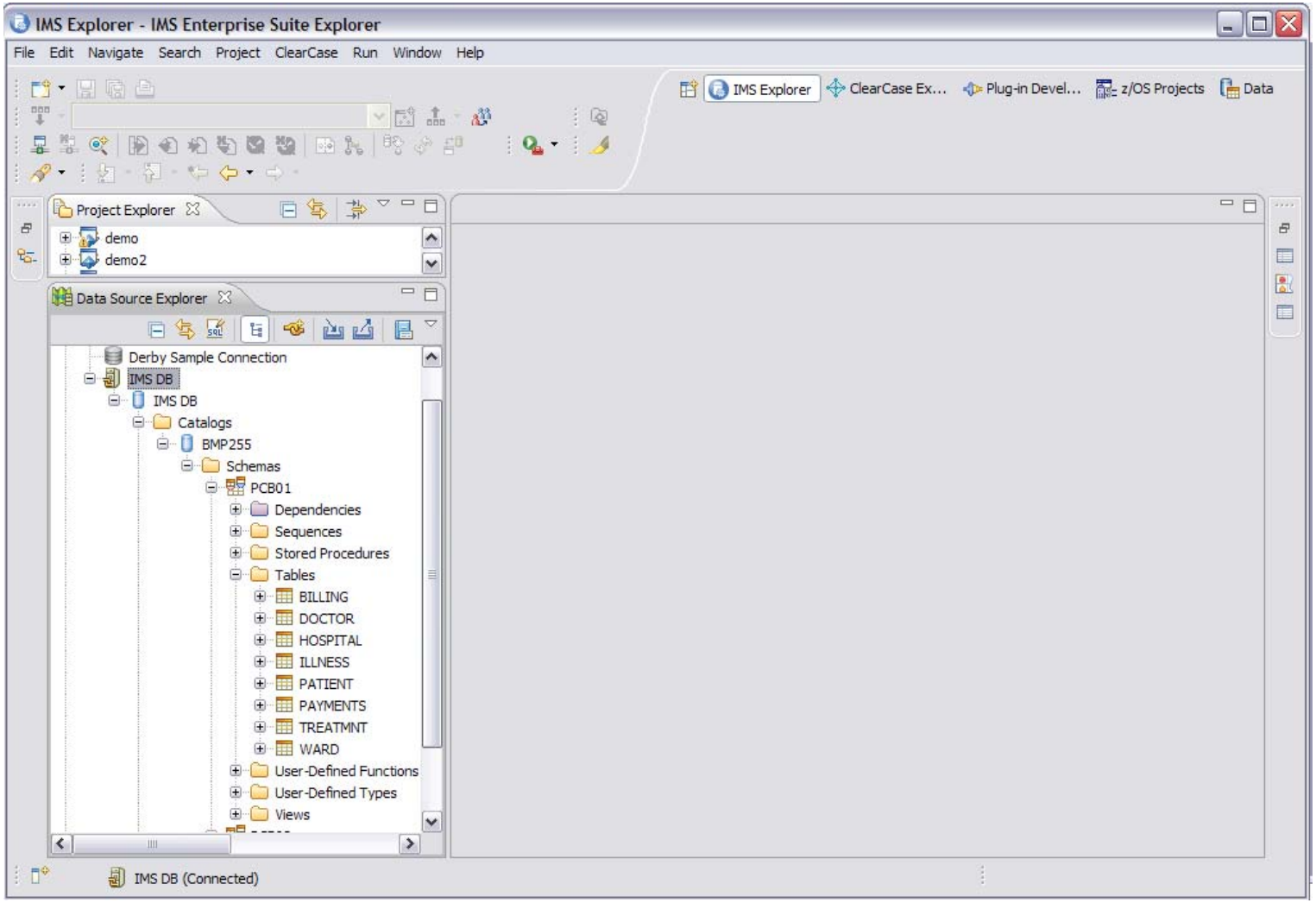
Data Source Explorer



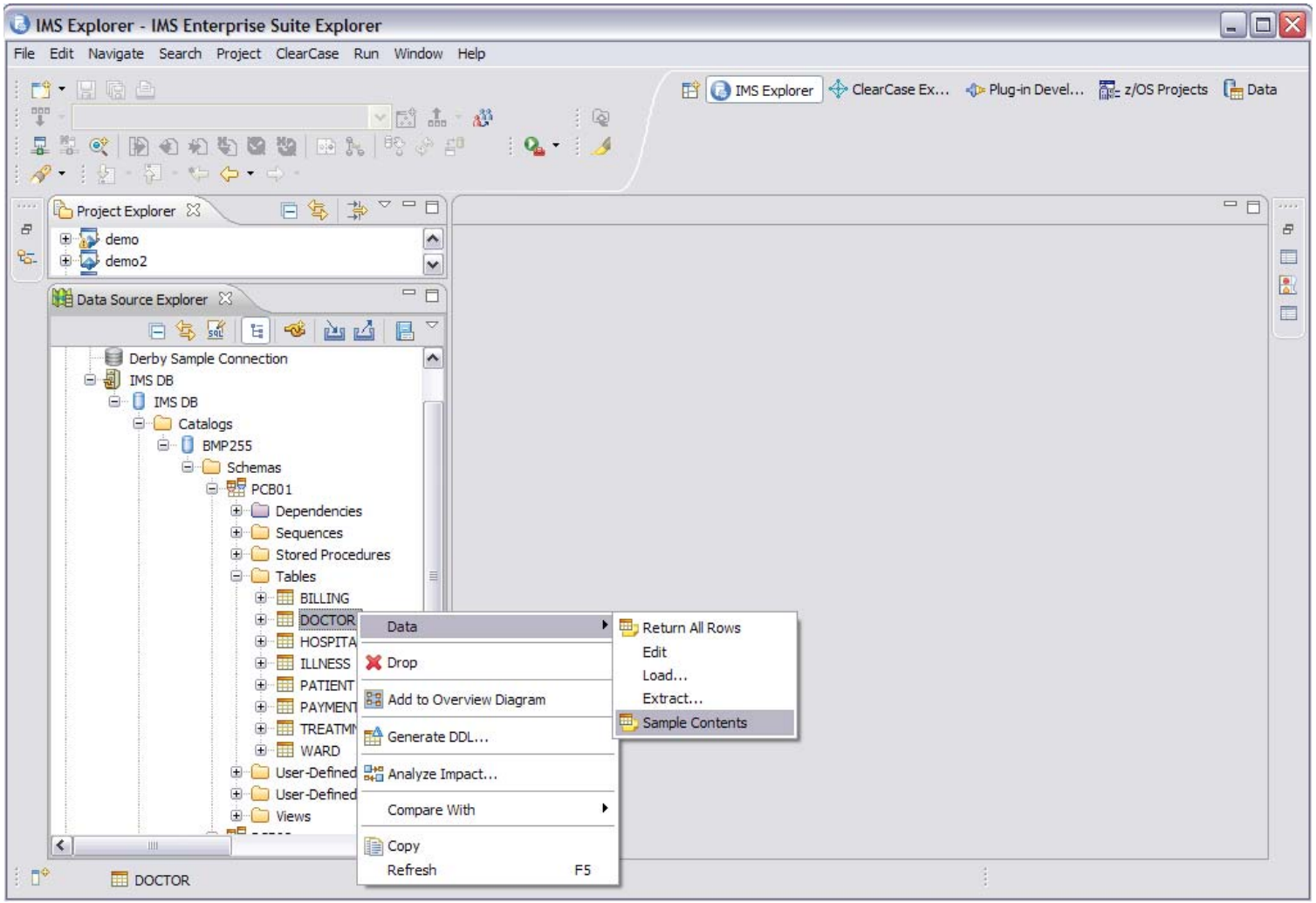
Create new IMS connection



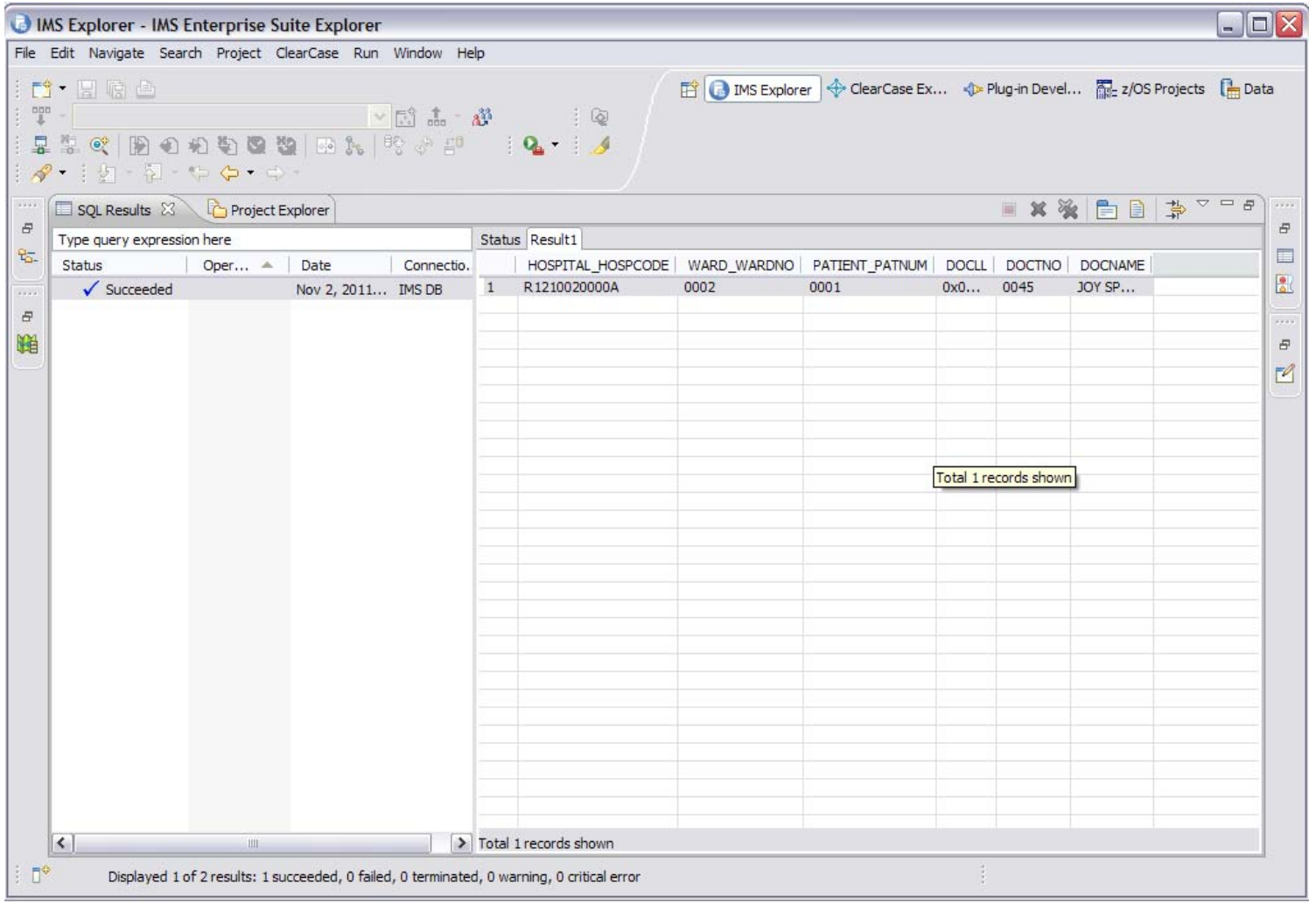
Browse IMS database



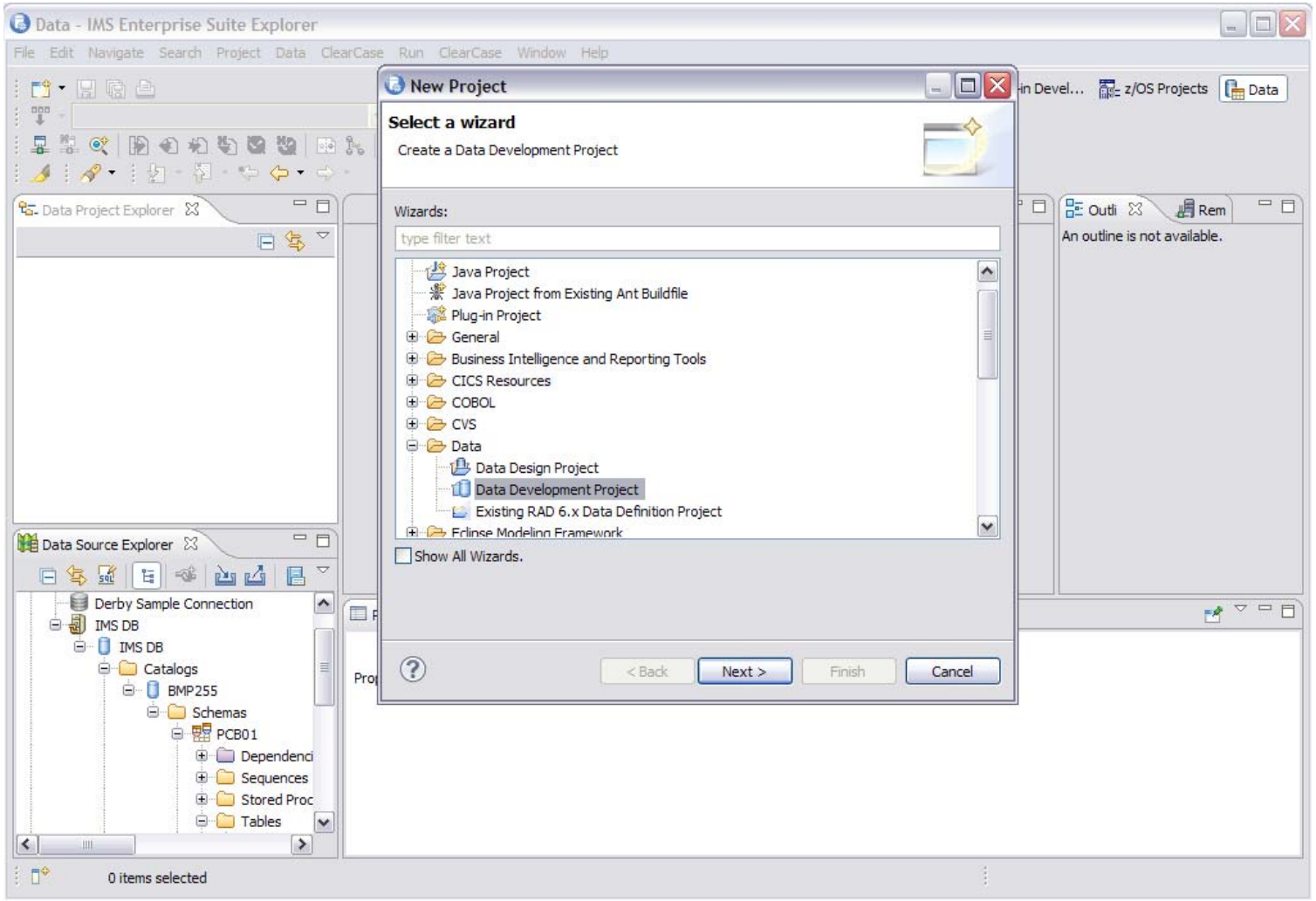
Sample data



Sample data



Create SQL script



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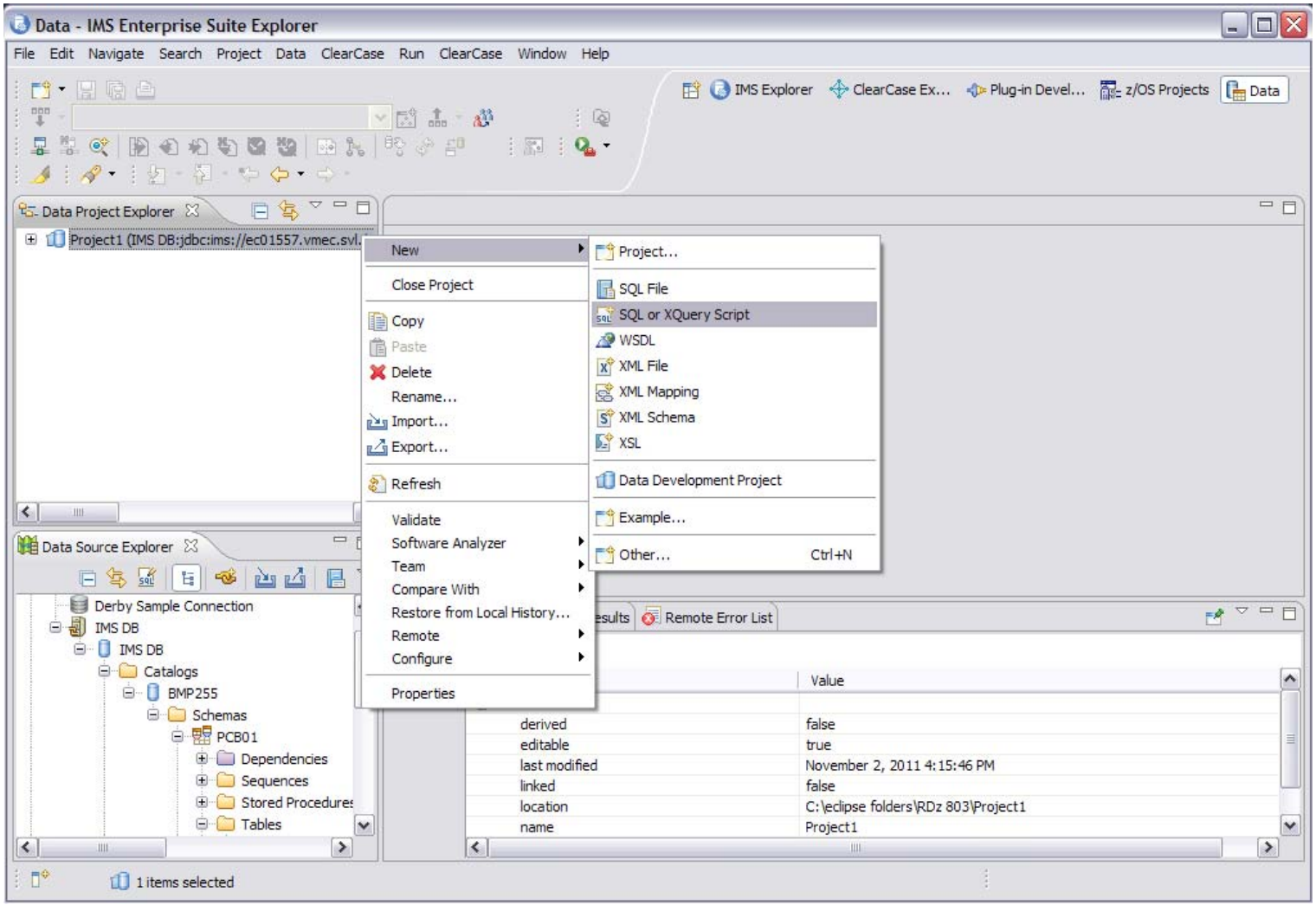

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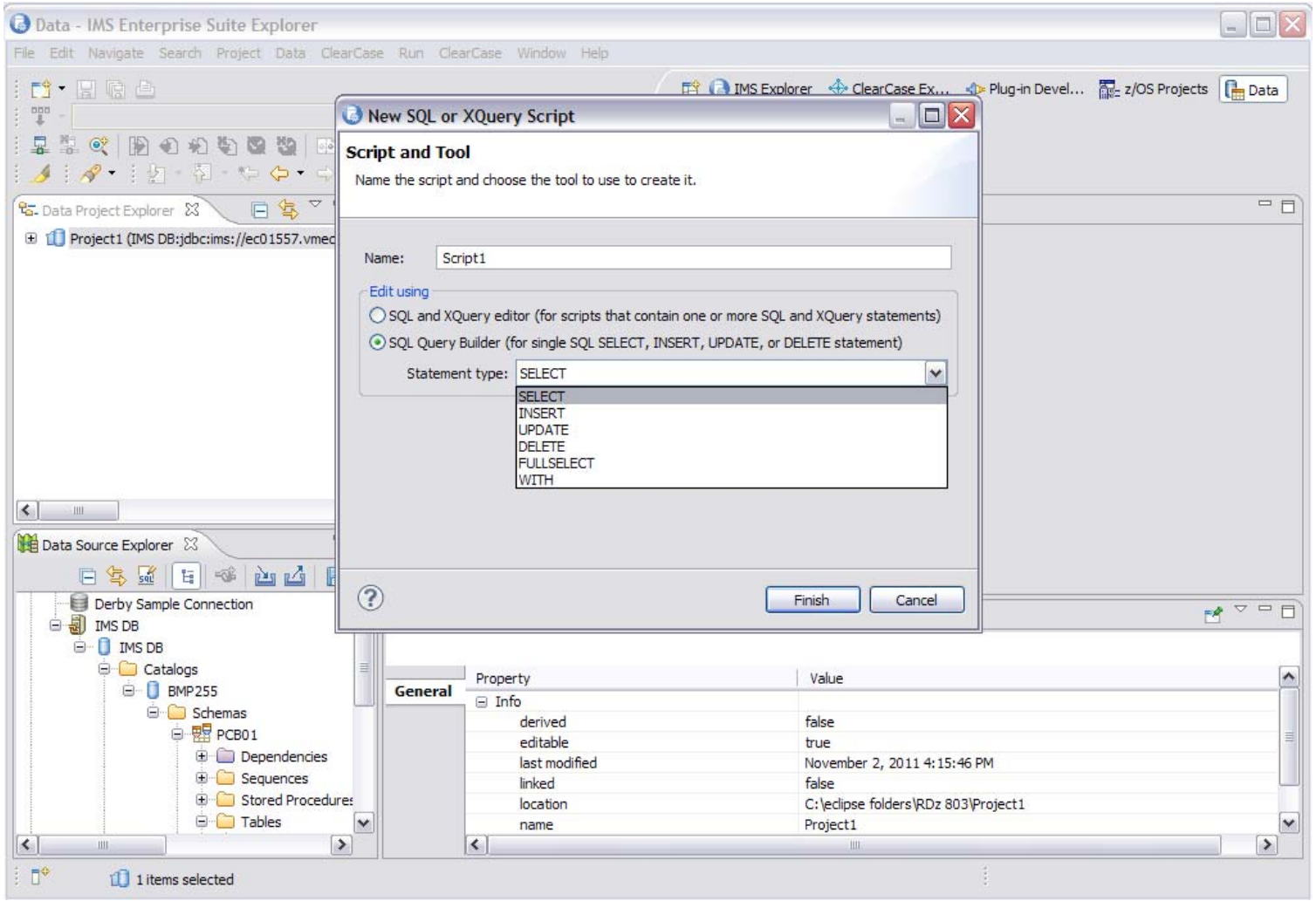

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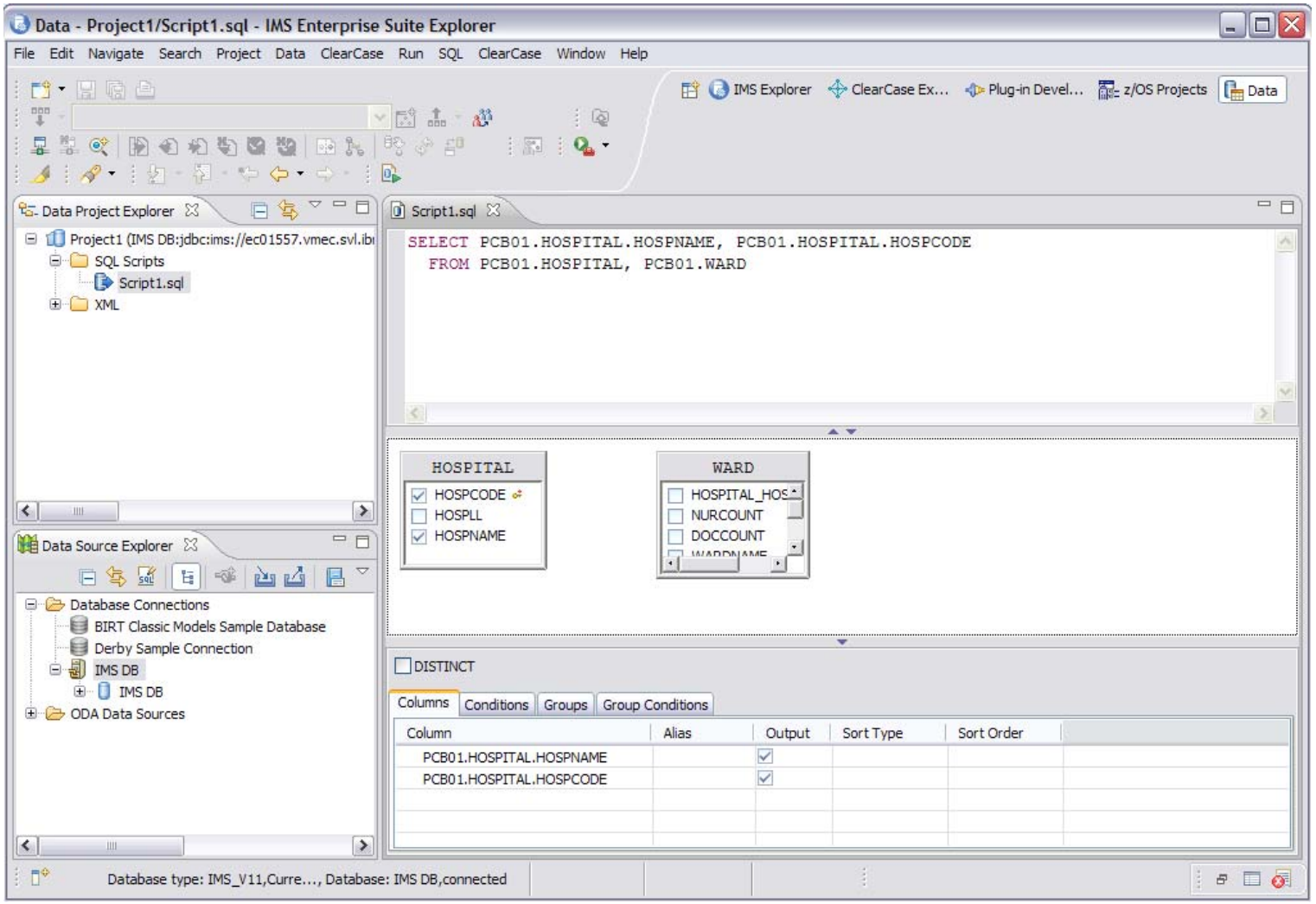

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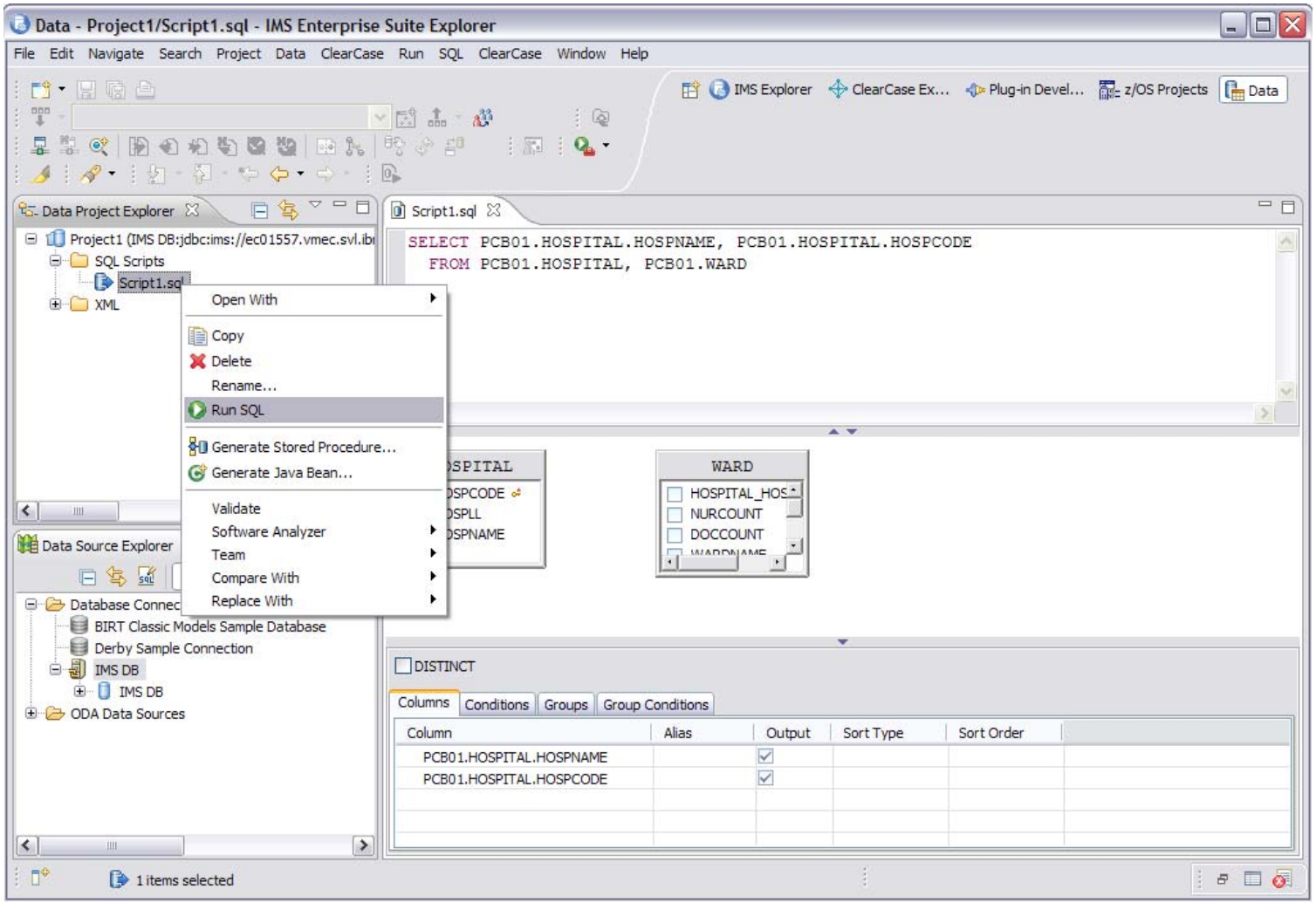

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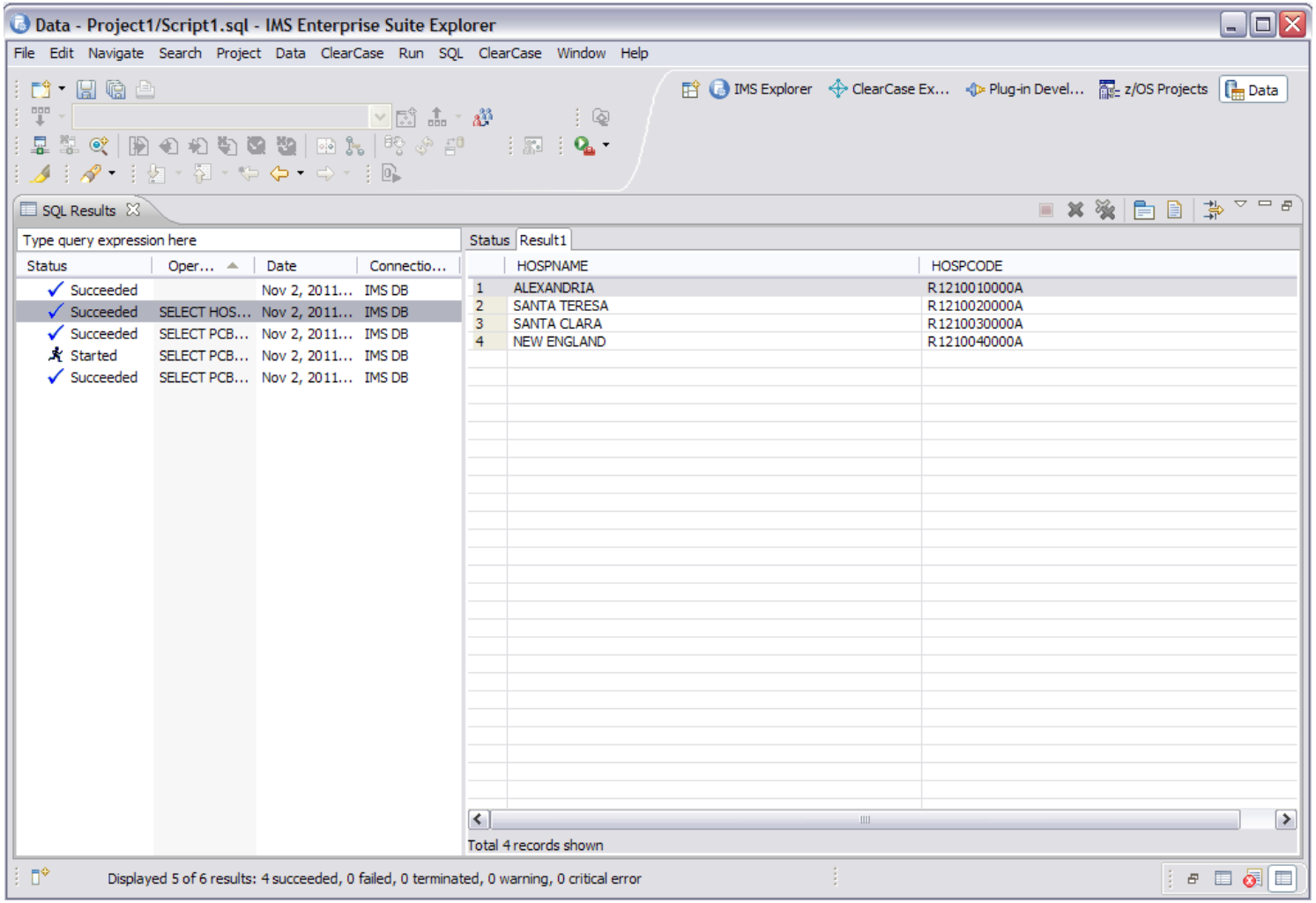

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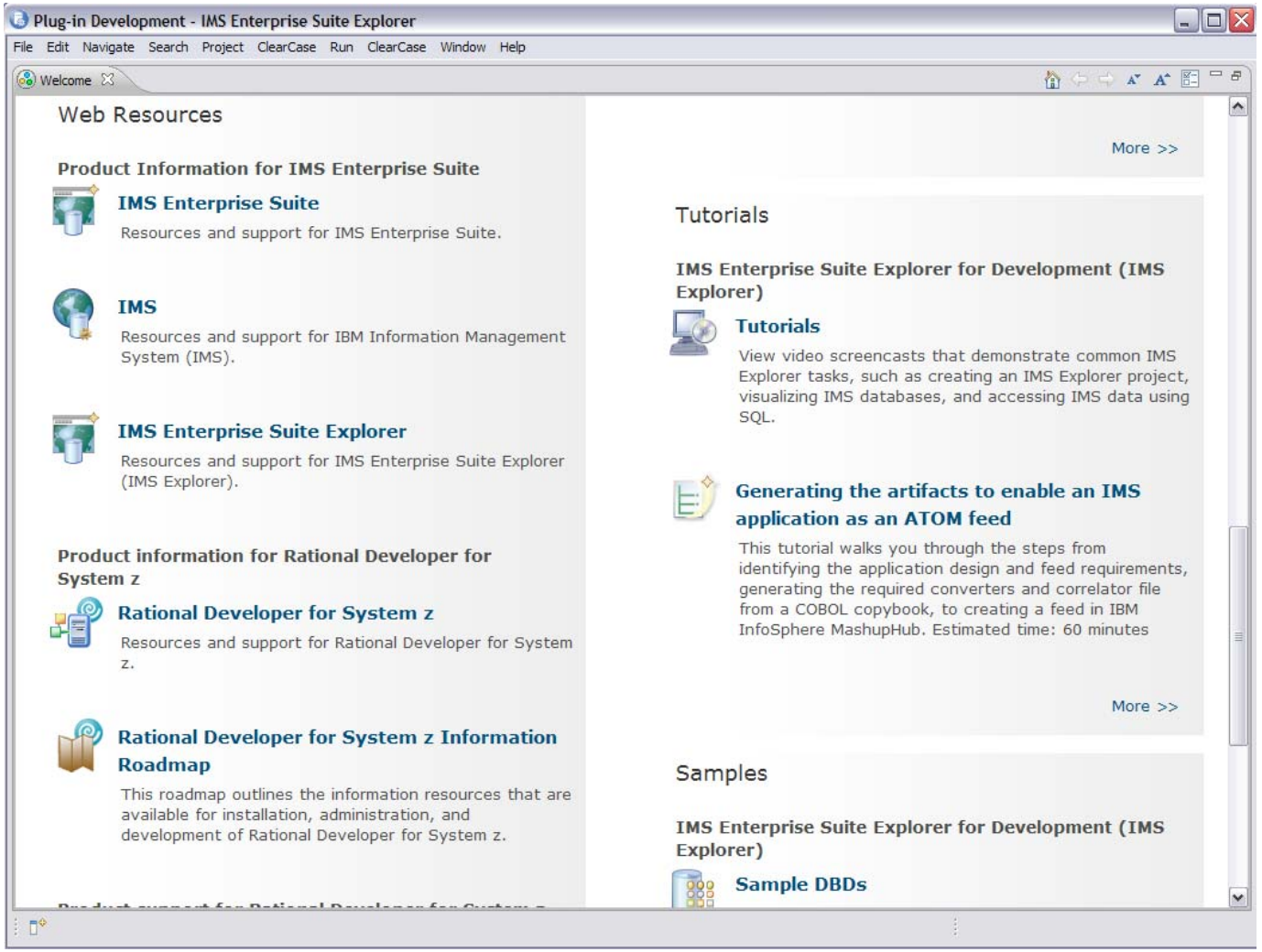

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