IBM® DB2® XML Extender

Release Notes

Version 7.2, Fixpak 11

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About the Release Notes for IBM DB2 XML Extender Version 7.2 FixPak 11

This document contains information about FixPak 11 for DB2 XML Extender Version 7.2. This supplements the information in *DB2 Universal Database® XML Extender Administration and Programming, Version 7*, released for DB2 Universal Database Version 7.2.

For users of DB2 XML Extender for iSeries, this document supplements information found in *DB2 Universal Database Extenders for iSeries: XML Extender Administration and Programming, Version 7*.

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Chapter 1. Installation Requirements

The following items are required to install this fix pack:

- DB2 UDB Version 7.2 Fixpak 11
- JDK Version 1.1.8 or higher

Operating system requirements:

- AIX version 4.2.1 or higher
- Solaris Operating Environment version 2.6 or higher
- Microsoft Windows NT 4.0 SP4 or higher, Microsoft Windows 2000
- Linux (Intel only), Linux kernel 2.2.12 or higher, glibc 2.1.2 or higher, libstdc++ 2.9.0
- OS/400 V5R1

The Web Services servlet requires JDK 1.2.2+ and JDBC 2.0+.

If you have older versions of DB2 XML Extender installed, uninstall the previous version before installing DB2 XML Extender Version 7.2.

Before beginning installation, check that DB2 is not running by entering `db2stop force` on the DB2 command line.

After installing DB2 XML Extender on the Solaris Operating Environment, it is necessary to run the following script:

```
/opt/IBMdb2xml/V7.1/bin/xmlsetup
```

You must have root authority to run this script.

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Chapter 2. Migrating to Fixpak 11 from prior releases

If you are using XML Extender Version 7.2 FixPak 10 or earlier, you must migrate each database enabled for XML Extender before using an existing XML-enabled database with XML Extender Version 7.2 FixPak 11. The migration program migrates you to DB2 XML Extender Version 7.2 Fixpak 11 from prior releases.

If you originally enabled a column without fully qualifying all of the tables in the DAD, use the same user ID when migrating that you used to originally enable the column, or migration will fail.

When using iSeries, refer to the cover letter for PTF 5722DE1 V5R1M0 SI12041 for migration instructions.

Before running the migration program, create a backup of the database.

The migration files are located in the fix pack install image.

When using UNIX or Windows, complete the following steps from the directory where you extracted the fix pack files (use a DB2 Command Window on Windows operating systems):

1. Enter:

   ```
   db2 connect to database_name
   db2 bind @dxxMigv.lst
   ```

2. Enter:

   ```
   db2 bind @dxxbind.lst
   ```

   The *dxxbind.lst* file is located in the *%install%*/bnd directory, where *%install%* is the directory where you installed XML Extender.

3. Enter:

   ```
   dxxMigv database_name
   ```

Failing to do the migration step can cause problems and unpredictable results such as failure while disabling databases and inability to access new UDFs.

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Chapter 3. What's new in XML Extender with Fixpak 11?

All updates in Fixpak 11 are now available on DB2 for iSeries: XML Extender in PTF 5722DE1 V5R1M0 SI12041.

APAR's that have been fixed in Fixpak 11:

- APAR JR19089: Side tables are not updated accordingly when a NULL XML-enabled column is updated.
- APAR JR18875: Error when running XML Extender Administration wizard with an iSeries V5R2 server. Enabling the database results in the following error:

  ```
  Enable database failed.  Exception: java.sql.SQL.Exception:
  [SQL0204] DXXENABLEDB in DB2XML type *N not found.
  ```

  The problem was caused by an incorrect schema name used to invoke the stored procedure.
- APAR JR18997: SQL Composition results in the following error when composing with CLOB columns:

  ```
  SQL0423N Locator variable "1" does not currently represent any value.
  ```
- APAR IY50650: SQL Composition performance degradation caused by false conversion error detection.
- APAR IY43383: SQL error message is not displayed when disabling a database fails.
- APAR IY43387: SQL warnings during composition cause abnormal termination.
- APAR IY42098: DXXQ045E error occurs when decomposing documents that contain non-unique attributes and/or non-unique element names that map to different columns (of the same or different tables)
- APAR IY50111: Fix a SAX2 memory leak.

Detailed description of selected APAR's:

APAR IY42098: Decomposing documents in XML Extender that contain non-unique attribute and element names

You can now decompose documents that contain non-unique attributes and/or non-unique element names that map to different columns (of the same or different tables) without receiving the DXXQ045E error. The DAD file would map the duplicate elements/attributes to different columns and would look like the following example:

```
<Order ID="0001-6789">
 <Customer ID = "1111">       <!-- Note: attribute name ID is non-unique -->
        <Name>John Smith</Name>
 </Customer>
 <Salesperson ID = "1234">
  <Name>Jane Doe</Name>       <!-- Note: element name Name is non_unique -->
 </Salesperson>
 <OrderDetail>
  <ItemNo>xxxx-xxxx</ItemNo>
  <Quantity>2</Quantity>
  <UnitPrice>12.50</UnitPrice>
 </OrderDetail>
 <OrderDetail>
  <ItemNo>yyyy-yyyy</ItemNo>
```

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```
  <Quantity>4</Quantity>
  <UnitPrice>24.99</UnitPrice>
 </OrderDetail>
</Order>
```

The DAD for the above XML document would look like this:

```
<element_node name="Order">
  <RDB_node>
    <table name="order_tab" key="order_id"/>
    <table name="detail_tab"/>
    <condition>
      order_tab.order_id = detail_tab.order_id
    </condition>
  </RDB_node>

  <attribute_node name="ID"> <!-- attribute "ID" duplicated below, -->
     <!-- but mapped to a different column -->
    <RDB_node>
      <table name="order_tab" />
      <column name="order_id" type="char(9)"/>
    </RDB_node>
  </attribute_node>

  <element_node name="Customer">
    <attribute_node name="ID"> <!-- attribute "ID" duplicated above, -->
     <!-- but mapped to a different column -->
     <RDB_node>
        <table name="order_tab" />
        <column name="cust_id" type="integer"/>
      </RDB_node>
    </attribute_node>

    <element_node name="Name"> <!-- element "name" duplicated below, -->
      <!-- but mapped to a different column -->
      <text_node>
        <RDB_node>
          <table name="order_tab" />
          <column name="cust_name" type="char(20)" />
        </RDB_node>
      </text_node>
    </element_node>
  </element_node>

  <element_node name="Salesperson">
    <attribute_node name="ID"> <!-- element "ID" duplicated above, -->
      <!-- but mapped to a different column -->
      <RDB_node>
      <RDB_node>
        <table name="order_tab" />
        <column name="salesp_id" type="integer"/>
      </RDB_node>
    </attribute_node>

    <element_node name="Name"> <!-- element "name" duplicated above, -->
      <!-- but mapped to a different column -->
      <text_node>
        <RDB_node>
          <table name="order_tab" />
          <column name="salesp_name" type="char(20)" />
        </RDB_node>
      </text_node>
    </element_node>
  </element_node>

  <element_node name="OrderDetail" multi_occurrence="YES">
    <element_node name="ItemNo">
```

```
      <text_node>
        <RDB_node>
          <table name="detail_tab" />
          <column name="itemno" type="char(9)"/>
        </RDB_node>
      </text_node>
    </element_node>
    <element_node name="Quantity">
      <text_node>
        <RDB_node>
          <table name="detail_tab" />
          <column name="quantity" type="integer"/>
        </RDB_node>
      </text_node>
    </element_node>
    <element_node name="UnitPrice">
      <text_node>
        <RDB_node>detail_tab" />
          <table name="detail_tab" />
          <column name="unit_price" type="decimal(7,2)"/>
        </RDB_node>
      </text_node>
    </element_node>
  </element_node>
</element_node>
```

The contents of the tables would look like the following after the document above is decomposed:

ORDER _TAB:

ORDER_ID	CUST_ID	CUST_NAME	SALESP_ID	SALESP_NAME
0001-6789	1111	John Smith	1234	Jane Doe

DETAIL_TAB:

ORDER_ID	ITEMNO	QUANTITY	UNIT_PRICE
0001–6789	xxxx-xxxx	2	12.50
0001–6789	yyyy-yyyy	4	24.99

Note: Multiple element/attribute mappings to the same column of the same table require a slight adjustment. To map an element/attribute to the same column of the same table, define a DB2 alias or view for the table and reference the alias/view for the second mapping to that column in the DAD.

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