IBM Db2 13 for z/OS
Product number 5698-DB2

IBM Db2® 13 for z/OS® is a relational database management system licensed program for the z/OS® environment.

In this document, Db2 13 for z/OS is sometimes referred to as "Db2 for z/OS," "Db2 13," or "Db2."

Highlights

Db2 for z/OS is a licensed program that supports the relational data model with a high-level language to access Db2 data. Db2 offers many functions in support of traditional database application areas, web and mobile devices, and business intelligence. The highlights of this licensed program and its functions are summarized below.

- **Relational data model:** Db2 provides a tabular data structure. Users view data as a series of rows and columns. Db2 provides hybrid data-server support for relational data (rows and columns), semi-structured data (XML and JSON), and unstructured data (large objects, or LOBs).

- **Structured query language:** Structured query language (SQL) is a high-level language that is used for data manipulation, data definition, and control. SQL does not depend on data paths, placement, or order when it accesses relational databases. In Db2 13 for z/OS, enhancements to SQL simplify application development and extend functionality, while also facilitating easier portability of applications from other members of the Db2 family or from other database products.

- **pureXML:** Db2 supports XML data. With pureXML, your client applications can manage XML data in Db2 tables.

- **Access to data:** Db2 provides robust availability and can be accessed by many applications, including:
  - IBM Information Management System (IMS) Transaction Manager
  - IBM Customer Information Control System (CICS®) Transaction Server
  - IBM Time Sharing Option (TSO) users
  - IBM Data Server Driver Package
  - REST API via z/OS Connect, Enterprise Edition
  - Standard REST Client software using Db2 built-in REST Service API
  - Web and mobile devices
  - WebSphere® Application Server
  - Batch jobs

Application programs that run under the control of IMS Transaction Manager or the CICS Transaction Server can also access Db2 data, IMS data, or both.

The data sharing function enables a group of Db2 subsystems to have concurrent access to the same data without replication.

In addition, Db2 can access, or be accessed by, different instances of Db2 or by other database management systems that support Distributed Relational Database Architecture™ (DRDA). These systems must be connected to the local Db2 subsystem by TCP/IP or Advanced Communication Facility/Virtual Telecommunications Access Method (ACF/VTAM®). Each data sharing member or non-data sharing subsystem can have up to 150,000 concurrent connections; up to 20,000 of those connections can be active at one time. Data can be changed and read by more than one subsystem in a single unit of work, and the commit processing of all data is coordinated. Other programs can access the data at the same time.

- **Application programming:** Programmers can use integrated development environments (Java™ and Microsoft .NET), many languages, and many access styles to access Db2. Users can access and manipulate Db2 data by using SQL through application programs that are written in Java, JavaScript, C++, COBOL, Fortran, PL/I, or assembler language. C and C++ applications can use embedded SQL or ODBC. Other "modern" languages, such as Scala, Python, and node.js, are also supported. Programmers can write applications that are written in the Java programming language and that access Db2 for z/OS data or data on any DRDA server. These applications can access data either dynamically through JDBC or through static embedded SQL by using pureQuery™ or SQLJ.

Db2 programmers can use a wide variety of IBM products that provide useful capabilities that help them develop, debug, tune performance for, and deploy traditional applications, web services, and Java database applications. Many of these products are identified in the Db2 13 for z/OS Program Directory.

Db2 13 delivers a wide variety of enhancements to improve application performance, expand programming capabilities, and improve compatibility across the Db2 family of products.

- **Migration:** Db2 13 for z/OS supports migration from Db2 12 for z/OS. Migration to Db2 13 with fallback protection is available for customers who are running on Db2 12. Fallback SPE APAR PH37108 is required. Existing customers must ensure that they are successfully running on Db2 12 (with Function Level S10 activated) before migrating to Db2 13. Db2 12 can coexist with
Db2 13 in a data sharing environment and in a distributed environment.

After the initial release of Db2 13, subsequent new features may be delivered with maintenance in the service stream without the need to move to a new release or version of Db2. In Db2 13, IBM will continue to implement additional capabilities that will enable clients to manage the function level capability of Db2. To learn more about the enhancements that are delivered after the initial release of Db2 13 visit IBM Documentation and search for “Db2 13 continuous delivery”.

Optional features
Db2 13 for z/OS delivers a variety of optional features. Each optional feature includes a Program Directory.

Specified operating environment
Db2 13 for z/OS has hardware and software requirements for the operating environment, which are identified in detail in the Db2 13 for z/OS Program Directory.

Compatibility
Db2 13 for z/OS is upwardly compatible with earlier releases of Db2 for z/OS. Migration with full fallback protection is available for customers who are running on Db2 12 for z/OS. Fallback SPE APAR PH37108 is required.

Licensed program materials availability
Restricted materials - No. This licensed program is available without source licensed program materials. It is available in object code.

Supplemental terms

Designated machine identification
Designated machine identification is required. The machine identification requirement prohibits copying platform-independent components that are delivered with this product, such as JDBC drivers, to other machines or operating systems unless specifically permitted by this document.

SQL Data Insights feature
SQL Data Insights is a separately orderable, optional feature, is licensed for use with Db2 13 for z/OS. It provides the user interface for training models and exploring data insights. Db2 13 for z/OS provides the in-database infrastructure for training and model table (vector table) management. Clients may use this feature to embed deep-learning AI capabilities into Db2 13 for z/OS. Notices for open source in SQL Data Insights are included for information purposes only and can be found in product members DSN4NOTC and DSN4ILIC. The SQL Data Insights feature has hardware and software requirements for the operating environment, which are identified in detail in the SQL Data Insights Program Directory.

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The z/OS Application Connectivity to Db2 for z/OS feature, a type 4 JDBC driver, is licensed for installation and use solely on z/OS. The sole authorized use of z/OS Application Connectivity to Db2 for z/OS is limited to connecting an application that runs on z/OS to any supported version of Db2 for z/OS that is running in a separate partition on the same server as the application is running or on a different z/OS server. You can also connect applications to a subsequent supported version of Db2 for z/OS. Authorized use does not extend to applications that run on Linux® or on any other platform or operating system.

QMF Enterprise Edition is a licensed program that consists of the following capabilities:
- QMF for TSO/CICS
- QMF Enhanced Editor
- QMF applications (previously named QMF Analytics for TSO in V12)
- QMF Z Client
- QMF High Performance Option
- QMF Vision
- QMF for Workstation
- QMF for WebSphere
- QMF Data Service, including QMF Data Service Studio

QMF Classic Edition is a licensed program that consists of the following capabilities:
- QMF for TSO/CICS
- QMF High Performance Option
- QMF Analytics for TSO
- QMF Enhanced Editor

QMF Enterprise Edition and QMF Classic Edition may include third-party code that IBM licenses to Licensee under the terms of the IBM Customer Agreement. Notices for the third-party code are included for information purposes only. These notices can be found in the Program’s NOTICES file(s), available with the QMF workstation components. Information on how to obtain source code for certain third-party code can be found in the Program’s NOTICES file(s).

QMF Version 13 works with any supported version of Db2 for z/OS, but it can be licensed only with Db2 13.

Redistribution of code for Db2 for z/OS
This document includes information about certain language interface modules that are intended to be bound or otherwise included with code and run on Db2 for z/OS subsystems. In connection with your authorized use of Db2 for z/OS, you may include these language interface modules in your modules and distribute your modules with the included language interface modules for the purposes of developing, using, marketing and distributing programs conforming to the documented programming interfaces for Db2 for z/OS, provided that each language interface module is included in its entirety, including

IBM Documentation

• SQL Data Insights Program Directory.

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Redistribution of code for Db2 for z/OS
This document includes information about certain language interface modules that are intended to be bound or otherwise included with code and run on Db2 for z/OS subsystems. In connection with your authorized use of Db2 for z/OS, you may include these language interface modules in your modules and distribute your modules with the included language interface modules for the purposes of developing, using, marketing and distributing programs conforming to the documented programming interfaces for Db2 for z/OS, provided that each language interface module is included in its entirety, including
any IBM copyright statements. These language interface modules have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply the reliability, serviceability, or function of these language interface modules. The language interface modules referred to here are:

- DSNAA
- DSNALI
- DSNELI
- DSNHADD2
- DSNHADDR
- DSNHLIR
- DSNHMMLTR
- DSNHMVHW
- DSNRLI
- DSNTIA1
- DSNTIAR
- DSNTIAM
- DSNULI

**Usage restriction**

Not applicable.

**Type and duration of program services**

IBM Support will be provided until discontinued by IBM with a minimum of twelve months written notice.

**Warranty**

This Program is warranted as specified in the IBM license.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

For Distributed Systems License Option (DSLO) Licenses, warranty service, if any, will be provided only through the Basic License location.

Following the discontinuance of all program services, this Program will be provided "As Is" as specified in the IBM license.

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