QMF Data Service 13.1

Getting Started Guide



SC28-3264-00

#### Note

Before using this information and the product it supports, be sure to read the general information under "Notices" at the end of this information.

#### May 31, 2022 edition

This edition applies to Version 13 Release 1 IBM<sup>®</sup> Db2 Query Management Facility (QMF) Classic Edition and Enterprise Edition, which are features of IBM Db2 13 for z/OS (5698-DB2). It also applies to Version 13 Release 1 of IBM Db2 QMF for z/OS (5698-QMF), which is a stand-alone IBM Db2 for z/OS tool. This information applies to all subsequent releases and modifications until otherwise indicated in new editions.

#### <sup>©</sup> Copyright International Business Machines Corporation .

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

<sup>©</sup> Rocket Software Inc. 2016, 2022.

# Contents

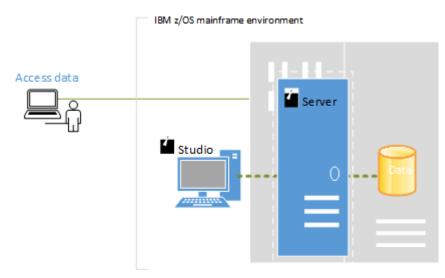
Chapter 1. Getting started	
Notices	
Trademarks	
Terms and conditions for product documentation Privacy policy considerations	
Index	

# **Chapter 1. Getting started**

Use IBM<sup>®</sup> DB2 QMF<sup>®</sup> Data Service (Data Service) to securely connect to and get access to data from your *z*/OS<sup>®</sup> mainframe environment.

This guide is intended to help Network, System, and Database Administrators to identify the high-level tasks associated with implementing Data Service within their existing environment.

The following illustration shows the basic Data Service architecture when implemented in a z/OS mainframe environment.



### Task 1: Install the Data Service server

To install the Data Service server, follow the IBM<sup>®</sup> program directory instructions.

### **Task 2: Customizations**

To customize the Data Service server, see the IBM<sup>®</sup> DB2 QMF<sup>®</sup> Data Service Customization Guide.

#### Task 3: Install the Data Service Studio

To install the Data Service Studio (Studio), when running the Db2<sup>®</sup> Query Management Facility Workstation installer, select to include the **QMF Data Service Studio** component. After the Studio is installed, you can access it by selecting **QMF Data Service Studio** from the Windows **Start** menu.

#### Task 4: Enable access to the mainframe data

To facilitate SQL access to your mainframe data, use the Studio to create metadata objects on the Data Service server. The information that is required to virtualize the source data depends on the data type. For example, to virtualize a VSAM cluster you will need to know information such as the location of the copybook that describes the data layout and the location of the VSAM cluster. For details about this task, see the *IBM® DB2 QMF® Data Service Studio User's Guide*.

- 1. Use the Studio to connect to the Data Service server.
- 2. Use the **Create Source Library** wizard to create virtual source libraries that reference data layouts on the mainframe.



3. Using a member from within a virtual source library, create a virtual table to represent the data that you want to access.

Select a wizard		
<u>W</u> izards:		
ADABAS     DBMS     DBMS     IDMS     IMS     Sequential     VSAM     VSAMCICS		
3	< Back Next > Einish Cancel	2
	SQL Results 🛛 🗠 Server Trace 🔲 Console	<u>⊿</u> ~ - ⊡
6 ¥ 0 ▽ - 6		
	Columns Group: 1 of 1 Columns per group: 25	~
	Select a wizard Wizards: ADABAS DBMS DBMS IDMS Sequential VSAM VSAMCICS	New     Select a wizard     Wizards:     Image: ADABAS   Image: Book and the second and the

### Task 5: Generate the code that is used to access the mainframe data

Use the Studio to generate the sample code for SQL access to your data on the mainframe. Right-click the virtual table, select to generate the SQL code, and then execute the query. You can also create a sample JDBC application using the Generate SQL Code wizard. The resulting SQL query displays on the **Generated.sql** tab.

# **Notices**

This information was developed for products and services offered in the US. This material may be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing IBM Corporation North Castle Drive, MD-NC119 Armonk, NY 10504-1785 US

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing Legal and Intellectual Property Law IBM Japan, Ltd. 19-21, Nihonbashi-Hakozakicho, Chuo-ku Tokyo 103-8510, Japan

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Director of Licensing IBM Corporation North Castle Drive, MD-NC119 Armonk, NY 10504-1785 US Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Director of Licensing IBM Corporation North Castle Drive, MD-NC119 Armonk, NY 10504-1785 US

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

#### COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work must include a copyright notice as shown below.

<sup>©</sup> (*your company name*) (*year*). Portions of this code are derived from IBM Corp. Sample Programs. <sup>©</sup> Copyright IBM Corp. (*enter the year or years*).

# Trademarks

IBM, the IBM logo, and ibm.com<sup>®</sup> are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at <u>http://</u>www.ibm.com/legal/copytrade.shtml.

Linux<sup>®</sup> is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java<sup>™</sup> and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Other company, product, and service names may be trademarks or service marks of others.

# Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions:

Applicability: These terms and conditions are in addition to any terms of use for the IBM website.

**Personal use:** You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM.

**Commercial use:** You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM.

**Rights:** Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.

IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

# **Privacy policy considerations**

IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user, or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information about this offering's use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM's Privacy Policy at <a href="http://www.ibm.com/privacy">http://www.ibm.com/privacy</a> and IBM's Online Privacy Statement at <a href="http://www.ibm.com/privacy/details">http://www.ibm.com/privacy</a> and IBM's Online Privacy Statement at <a href="http://www.ibm.com/privacy/details">http://www.ibm.com/privacy</a> and IBM's Online Privacy Statement at <a href="http://www.ibm.com/privacy/details">http://www.ibm.com/privacy</a> and IBM's Online Privacy Statement at <a href="http://www.ibm.com/privacy/details">http://www.ibm.com/privacy/details</a> the section entitled "Cookies, Web Beacons and Other Technologies" and the "IBM Software Products and Software-as-a-Service Privacy Statement" at <a href="http://www.ibm.com/software/info/product-privacy">http://www.ibm.com/software-as-a-Service Privacy Statement</a>" at <a href="http://www.ibm.com/software/info/product-privacy">http://www.ibm.com/software-as-a-Service Privacy Statement</a>" at <a href="http://www.ibm.com/software/info/product-privacy">http://www.ibm.com/software/info/product-privacy</a>.

# Index

# С

Customize 1

# Ε

Enabling access to the mainframe data 1

## I

Install <u>1</u>

# L

links non-IBM Web sites 5

# Ν

notices legal <u>3</u>



Product Number: 5698-DB2 5698-DB2 5698-QMF

SC28-3264-00

