MainView for DB2 Customization Guide

Supporting

Version 12.1.00 of MainView for DB2
Version 12.1.00 of BMC System Performance for DB2
Version 12.1.00 of BMC NGT Load for DB2 for z/OS

December 2016
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United States and Canada

<table>
<thead>
<tr>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC SOFTWARE INC</td>
<td>1 713 918 8800</td>
<td>1 713 918 8000</td>
</tr>
<tr>
<td>2103 CITYWEST BLVD</td>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td>HOUSTON TX 77042-2827 USA</td>
<td></td>
<td>1 800 841 2031</td>
</tr>
</tbody>
</table>

Outside United States and Canada

<table>
<thead>
<tr>
<th>Telephone</th>
<th>Fax</th>
</tr>
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<tr>
<td>+01 713 918 8800</td>
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</tbody>
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Before contacting BMC
Have the following information available so that Customer Support can begin working on your issue immediately:

■ Product information
  — Product name
  — Product version (release number)
  — License number and password (trial or permanent)
■ Operating system and environment information
  — Machine type
  — Operating system type, version, and service pack or other maintenance level such as PUT or PTF
  — System hardware configuration
  — Serial numbers
  — Related software (database, application, and communication) including type, version, and service pack or maintenance level
■ Sequence of events leading to the problem
■ Commands and options that you used
■ Messages received (and the time and date that you received them)
  — Product error messages
  — Messages from the operating system
  — Messages from related software
License key and password information

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- Send an e-mail message to customer_support@bmc.com. (In the Subject line, enter SupID: yourSupportContractID, such as SupID:12345.)
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About this book

This book contains detailed information about the associated product or products. This preface explains the special conventions that the book uses, and how to access related publications.

If applicable, the preface also summarizes the major changes included in the latest release of the product.

Related publications

From the BMC Support Central website, you can use the following methods to access related publications that support your product or solution:


- View Quick Course videos (short overviews of selected product concepts, tasks, or features), which are available from the following locations:
  - Documentation Center (primary center and secured center)
  - Support Central (at http://www.bmc.com/support/mainframe-demonstrations)
  - BMC Mainframe YouTube channel (https://www.youtube.com/user/BMCSoftwareMainframe)


Products with online interfaces also offer online Help via the F1 key or, for graphical user interfaces (GUIs), via a Help button.
If you prefer hardcopy documentation, you can order it from your BMC sales representative or from Support Central. Also, from Support Central you can subscribe to receive proactive e-mail alerts when BMC issues notices.

## Conventions

This document uses the following special conventions:

- All syntax, operating system terms, and literal examples are presented in this typeface.

- Variable text in path names, system messages, or syntax is displayed in italic text: `testsys/instance/fileName`

- Menu sequences use a symbol to convey the sequence. For example, Actions => Create Test instructs you to choose the Create Test command from the Actions menu.

### Syntax statements

This topic explains conventions for showing syntax statements.

A sample statement follows:

```
COMMAND KEYWORD1 [KEYWORD2 | KEYWORD3] KEYWORD4={YES | NO} fileName...
```

The following table explains conventions for syntax statements and provides examples:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items in italic type represent variables that you must replace with a name</td>
<td><code>alias</code></td>
</tr>
<tr>
<td>or value. If a variable is represented by two or more words, initial</td>
<td><code>databaseDirectory</code></td>
</tr>
<tr>
<td>capitals distinguish the second and subsequent words.</td>
<td><code>serverHostName</code></td>
</tr>
<tr>
<td>Convention</td>
<td>Example</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Brackets indicate optional items. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.</td>
<td><code>[tableName, columnName, field]</code></td>
</tr>
<tr>
<td></td>
<td><code>[-full, -incremental, -level]</code></td>
</tr>
<tr>
<td>Braces indicate that at least one of the enclosed items is required. Do not type the braces when you enter the item.</td>
<td>`{DBDName</td>
</tr>
<tr>
<td></td>
<td>UNLOAD device={(disk</td>
</tr>
<tr>
<td>A vertical bar means that you can choose only one of the listed items. In the example, you would choose either <code>commit</code> or <code>cancel</code>.</td>
<td>`{commit</td>
</tr>
<tr>
<td>An ellipsis indicates that you can repeat the previous item or items as many times as necessary.</td>
<td><code>columnName...</code></td>
</tr>
</tbody>
</table>
Preparing for customization

This chapter discusses preparations for customization: installation considerations, release and product compatibility, and update considerations.

Product installation

For installation instructions, see the Installation System Reference Manual and the Installation System Quick Start.

To ensure that your installation is successful, review “Post-installation tasks/verification” on page 19.

Product compatibility

This topic discusses compatibility between this release of the product and earlier releases, and between this release and other products and components.

MainView Infrastructure compatibility

This release of the product is packaged with BBI version 2.6 and MainView Infrastructure (MVI) version 6.2.00. This release is compatible with other MainView products that use MVI 6.2.

Cross-system compatibility with earlier releases

All MainView for DB2 functions are fully available for multiple-system support communication between this release of the product and earlier releases. Compatibility is handled automatically.
**Note**

BMC no longer supports version 9 or earlier of MainView for DB2.

A trace log data set cannot contain data from multiple versions of DB2 and MainView for DB2. Attempting to access such a data set will result in the error DZ3133E - LOG BUFFER ACCESS FAILURE - PRE-MAP SUMMARY.

**Downward compatibility**

In this release of the product, the Trace History application can process trace log data sets (TLDSs) that you created with version 11.2, however, the DB2 target system that you want to monitor must be version 11.1 or later.

**Example**

A BBI-SS PAS that monitors a version 12.1 target system can read TLDSs for version 11.2.

However, a BBI-SS PAS that monitors a version 11.2 target system cannot read TLDSs for version 12.1.

**Upward compatibility**

A terminal session from version 11.2 of the product can access all of the 12.1 full-screen trace functions (including history traces) through a cross-system connection to a 12.1 BBI-SS PAS.

However, an 11.2 terminal session cannot process a 12.1 TLDS within a 11.2 BBI-SS PAS.

If you try to access a view that includes new elements from an earlier BBI-SS PAS, you will receive the message BBMXV334I Target target on system system contains nn unresolved elements. In this case, press Enter and you will see the view.

**Compatibility with the Data Collector component**

This release of the product is packaged with and requires MainView for DB2 - Data Collector 12.1.00.
Compatibility with CATALOG MANAGER component

This release of the product is compatible with any currently supported version of the CATALOG MANAGER Browse or CATALOG MANAGER for DB2 product.

Compatibility with RxD2

This release of the product is compatible with RxD2/FlexTools 2.1. Hyperlinks are invoked through expand buttons in MainView for DB2 full-screen displays; these hyperlinks provide quick access to corresponding RxD2 displays or functions, such as EXPLAIN for an SQL statement. The target DB2 is passed from MainView for DB2 to RxD2.

CAF compatibility

The BBI-SS PAS can connect to DB2 Versions 10, 11, and 12 subsystems if the proper call attachment facility (CAF) compatibility PTFs are available from IBM and applied.

Contact IBM for CAF compatibility information. For more information, see “DB2 target system considerations” on page 24.

Update considerations

This topic describes update considerations for users who are moving from version 11.2 of MainView for DB2 to version 12.1. MainView configuration is recommended.

Historical data sets for short-term statistics

A subset of DB2 statistics are collected at one-minute intervals for improved granularity. This requires the allocation of a new set of historical data sets. The low-level qualifier begins with HST1DSnn (rather than HISTDSnn). For more information about allocating historical data sets and defining them per PAS, see the MainView Customization Reference.

Note

If these data sets are not allocated, the DB2 Health Navigator views and configurations are disabled.
Customized workload definitions

If you have customized workload definitions saved in the BBPARM member BBPTWK00, and they specify a connect type of APPLSERV or SYSSERV, you must modify the connect type to DRDA or DDF, respectively.

Enabling the components

If the MainView for DB2 - Data Collector and CATALOG MANAGER for DB2 (Browse Only) components have not been installed at the same time as the MainView for DB2 base functions, or if the MainView configuration steps were not executed, use manual customization.

For instructions, see “Defining the connection to the MainView for DB2 - Data Collector” on page 27 and “Defining the connection to CATALOG MANAGER for DB2” on page 29.

Allocating a sufficient terminal session region size

MainView for DB2 requires a minimum terminal session or user address space region size of 4MB (4096K). It is recommended that you set the region size to 6MB if you anticipate running MainView for DB2 while doing other work from an ISPF split-screen. In addition, a 6MB region size is recommended if you anticipate transferring between multiple products while MainView for DB2 is active.

Using an External Security Manager (ESM)

External security managers (ESMs) grant access to MainView products through the z/OS security authorization facility (SAF) interface.

The SAF interface provides access to IBM RACF, CA-TOP SECRET, or CA-ACF2 ESMs. For instructions about creating resource definitions that can be used by your site’s ESM, see the MainView Security Guide.

EXCP or VTAM terminal sessions

BMC Software uses MainView Alternate Access to provide session communication for all existing and future MainView products. This facility establishes
communication between MainView products and EXCP or VTAM through ISPF without requiring an active TSO session.

**ISPF split-screen support authorization**

MainView for DB2 must be able to support multiple occurrences of MainView windows. As an example, transfers between MainView products are performed with an ISPF split-screen. TSF authorization must be added to provide ISPF split-screen support.

Errors might result without adequate split-screen support. Error messages usually occur after an attempt to transfer between products or to divide the screen with the ISPF SPLIT command. Use the following messages as diagnostic aids to resolve problems that occur as a result of inadequate split-screen support.

- **PS2010E - INSUFFICIENT STORAGE TO RUN THE SESSION**
  
  The terminal session region size is too small and cannot support an adequate number of transfer sessions.

  If you are a TSO user, you must log off TSO and then log on with a larger region size. Your site’s TSO administrator might have to give you authorization to increase your region size.

  If you are a VTAM or EXCP terminal user, change the REGION parameter in the JCL to 4096K or larger.

- **TS0023E - NOT SUPPORTED IN CURRENT ENVIRONMENT**

  BBLOAD DD statements specify data sets that are not APF-authorized. If you are able to run MainView products but receive this message during a product transfer, BBLOAD specifies different data sets than does BBILINK.

  Add the unauthorized data sets to the APF list and restart the terminal session. You can add data sets to the APF list with MainView SYSPROG Services or MainView for OS390’s SYSPROG APF service.

- **TS0025E - PMGLAUTH REQUIRED FOR TRANSFER SUPPORT**

  PMGLAUTH program is not in the TSO-authorized commands list nor is it in a LINKLIST or STEPLIB data set.

  Add PMGLAUTH to theAUTHTSFLIST in SYS1.PARMLIB(IKJTSOxx) and log on again. You can add PMGLAUTH to the AUTHTSF list with the SYSPROG AUTHTSO command provided in the MainView SYSPROG Services and the MainView for z/OS products.

  If PMGLAUTH is in the TSF list and you still receive message TS0025E, type PMGLAUTH from a TSO READY prompt and check to see if the message COMMAND NOT FOUND appears. The appearance of this message means that PMGLAUTH is not in a LINKLIST or STEPLIB data set. Do one of the following actions:
— Concatenate BBLINK to the STEPLIB in your logon procedure.
— Copy PMGLAUTH to an existing LINKLIST data set.
— Add BBLINK to your system LINKLIST.

**Performance Reporter considerations**

If you install the MainView for DB2 Data Collector component, two additional batch features are available.

You can use the Data Collector to optionally log data to use as batch input instead of SMF data, and an additional Data Collector reporting facility is available. For more information about these features, see the *MainView for DB2 Performance Reporter User Guide*.

---

**Related Information**

- “Compatibility with the Data Collector component” on page 14
Post-installation tasks/verification

For installation considerations, see the section about product-specific installation considerations in the *Installation System Reference Manual*.

You need to complete a few post-installation tasks to make sure that the product and all its components are installed correctly.

If you need further instructions to accomplish any of the following tasks within the MainView for DB2 - Data Collector component, see the customization tasks section of the *Installation System Reference Manual*. You can also press HELP from any panel for more information. The *System and SQL Performance for DB2 Administrator Guide* provides information about administrative tasks for the MainView for DB2 - Data Collector component.

Refreshing the Linklist Lookaside (LLA)

This task is optional. Perform these steps only if both of the following conditions are true:

- You are using the z/OS Linklist Lookaside (LLA) feature.
- You have installed the product load modules into a LINKLST data set.

**To refresh the Linklist Lookaside (LLA)**

1. If both conditions are true, refresh the LINKLST data set.

Verifying Data Collector installation

Use the following procedures to verify that the Data Collector installation is complete.

- “To verify the connection” on page 20
To verify the connection

1. Start the Data Collector by executing the Data Collector JCL in your PROCLIB.

2. Start the CAS and PAS by executing the JCL in your PROCLIB to start a CAS and a BBI-SS PAS. (For more information, see the *MainView Customization Reference* and the *MainView Administration Guide*.)

3. Log on to MainView for DB2 and access EZDB2. (For log on instructions, see the *MainView for DB2 User Guide*.)

4. Set the context to an active target DB2 subsystem (CON `db2target`).

5. Select MVDB2/DC Admin/Archive from the EZDB2 easy menu and then select Option 1 to access the Administration menu for the Data Collector.

   If this hyperlink works, continue on to “To verify the set-up” on page 20.

   If the connection to the Data Collector does not work, perform the following actions:

   - Check that the passwords are where they need to be.
   - Make sure that the DOMC CLIST was moved into the `hilevel/SSBCLIB` data set and that the data set allocated in the MAINVIEW CLIST after `hilevel.BBCLIB` in the BBCLIB DD concatenation.
   - To verify the products in the Data Collector, issue the PRODUCTS command from SDSF with the syntax `/f dcid,products`. For example, for Data Collector JB10, issue the command `/f j10,products`.

A list of all Data Collector products that have registered themselves is displayed in the Data Collector message log.

To verify the set-up

1. On the Administration panel, select Option 2. DOMPLEX Option Sets.

2. On the DOMPLEX Option Sets panel, enter E next to the appropriate DOMPLEX.

3. Move the cursor to the + sign next to DOMPLEX Parameters and press Enter to expand the list.

4. Review the parameters.
To verify the Explain process

Issue a dynamic Explain command, as follows:

1. Return to the MainView for DB2 – DC Main Menu.
2. Select Option E, Explain Interface.
3. Select Option 5, Ad Hoc SQL.
4. Enter an SQL statement, for example:
   
   SELECT * FROM SYSIBM.SYSDBAUTH

5. Press Enter and then press F3.
6. Select Option 1 to Explain the SQL.

Verifying CATALOG MANAGER Browse installation

Use the following procedure to verify the CATALOG MANAGER Browse installation.

To verify installation

1. Ensure that the context is set to a local target DB2 subsystem.
2. On the EZDB2 menu, or the EZDBA menu, select one of the following options:
   ■ CATALOG MANAGER Local
   ■ CATALOG MANAGER - Remote
3. Select an object type from the Catalog Browser Primary Menu.

If this process works, you have now completed the verification.

If an error occurs, perform the following actions:

■ Check the results of the $740INST job and make sure that all steps executed successfully.

■ Make sure that the DMRACT CLIST was moved into the \hsiloclel.SSBCLIB data set, and that the data set allocated in the MAINVIEW CLIST after \hsiloclel.BBCLIB in the BBCLIB DD concatenation.
**Note**
If you ran MainView configuration, the DMRACT CLIST is moved automatically. If you did not use MainView configuration, take the following steps:

1. Manually allocate a `hlq.SBBCLIB`, and concatenate it to the BBCLIB DD allocation.

2. Move the customized DMRACT CLIST into `hlq.SBBCLIB`.

■ Check the member DMRACTR in UBBPARM to ensure that it specifies the correct CATALOG MANAGER release number.

**Note**
If you have a full license for CATALOG MANAGER for DB2, you must add the CATALOG MANAGER password library to the ISPLLIB LIBDEF definition in the DMRACT CLIST, or copy the password module directly into the HLQ.ACTLINK.
Customizing MainView *for DB2* functions

This chapter describes how to tailor MainView *for DB2* to your site’s needs. Customization of BBI and the MainView Infrastructure is discussed in the *MainView Customization Reference*. Customization of MainView *for DB2* - Data Collector and CATALOG MANAGER *for DB2* is discussed in the *Installation System Reference Manual*.

Using product libraries

Several distributed libraries are included with MainView *for DB2*, including a parameter library (BBPARM), a sample library (BBSAMP), and a profile library (BBPROF). Use the contents of these distributed libraries as models to create site-customized product libraries, either manually or automatically with MainView configuration.

**WARNING**

You should never modify the distributed libraries. If you change them, subsequent SMP maintenance will overwrite your changes.

Throughout the MainView documentation set, references to these libraries use the distributed name. However, when you need to make changes, use the corresponding library that has been customized for your site. *Table 1 on page 23* lists the distributed name and the corresponding customized library created by MainView configuration.

**Table 1: Product libraries**

<table>
<thead>
<tr>
<th>Distributed library name</th>
<th>Library created by MainView configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBPARM</td>
<td>UBBPARM</td>
</tr>
<tr>
<td>BBSAMP</td>
<td>UBBSAMP</td>
</tr>
<tr>
<td>BBPROF</td>
<td>SBBPROF</td>
</tr>
</tbody>
</table>
**DB2 target system considerations**

Consider the following points when customizing the DB2 target system and the BBI-SS PAS.

- **MainView for DB2 libraries are not required in your DB2 system.**
- **One BBI-SS PAS can monitor multiple DB2 systems** (see BBPARM member BBIJNT00).

**Note**

Version 12.1 of MainView for DB2 supports DB2 Versions 10 and later. A MainView for DB2 PAS can monitor DB2 subsystems at two different DB2 releases if the DB2 load library used in the PAS contains the appropriate call attachment facility (CAF) compatibility level. Contact IBM for information about upward-compatibility PTFs for the lower release load library.

- **The BBI-SS PAS establishes a CAF connection to DB2** that detects DB2 startups and shutdowns, and establishes a DB2 thread to use the DB2 Instrumentation Facility Interface (IFI) for workload requests.

**Note**

If the MainView for DB2 CAF connection to DB2 is lost for any reason, you can restart it with the BBI control command RESET BM. For more information, see the *Installation System Reference Manual*.

- **The BBI-SS PAS must load several DB2 CAF related modules.** It first searches the data set that is specified in the DSNLOAD DD (if present); if not found, it then searches SYS1.LINKLST. If the DB2 SDSNLOAD is allocated in the SYS1.LINKST, the DSNLOAD DD statement is not required in the BBI-SS PAS JCL.
Authorizing the BBI-SS PAS for DB2 targets

Use the following procedures to GRANT authorization to the MainView *for DB2* BBI-SS PAS for DB2 targets, and bind and authorize the DB2 Plan name for each DB2 target.

To issue trace control commands and capture data through the DB2 Instrumentation Facility Interface (IFI), the BBI-SS PAS must be GRANTed authorization. In addition, to issue DB2 commands from MainView *for DB2*, you must GRANT the privileges that are required for the types of DB2 commands that you want to issue from the BBI-SS PAS.

To access certain IFCID records, a DB2 Plan is required. This plan must be bound and authorized for each DB2 target.

**To GRANT DB2 authorization to the MainView *for DB2* BBI-SS PAS**

1. Execute the following SQL statement:

   ```sql
   GRANT TRACE,monitor1,monitor2,DISPLAY TO authid;
   ```

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>monitor1/monitor2</td>
<td>List the system/database privileges that you require:</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: To cancel a thread in the DUSER full-screen service, or to issue DB2 commands in the BBI log, requires SYSADM, SYSOPR, or SYSCTRL authority.</td>
</tr>
<tr>
<td></td>
<td>- System privileges:</td>
</tr>
<tr>
<td></td>
<td>- RECOVER</td>
</tr>
<tr>
<td></td>
<td>- STOPALL</td>
</tr>
<tr>
<td></td>
<td>- STOPSPACE</td>
</tr>
<tr>
<td></td>
<td>- SYSADM</td>
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<td></td>
<td>- SYSOPR</td>
</tr>
<tr>
<td></td>
<td>- SYSCTRL</td>
</tr>
<tr>
<td></td>
<td>- Database privileges:</td>
</tr>
<tr>
<td></td>
<td>- DBADM ON DATABASE</td>
</tr>
<tr>
<td></td>
<td>- DISPLAYDB ON DATABASE</td>
</tr>
<tr>
<td></td>
<td>- STARTDB ON DATABASE</td>
</tr>
<tr>
<td></td>
<td>- STOPDB ON DATABASE</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>authid</td>
<td>Authorization ID</td>
</tr>
</tbody>
</table>

The authorization ID and how it is determined depends on the access security system that you are using. The following rules apply:

- If no security management system is installed or if it is active, specify the BBI-SS PAS ID.
- If the security management system is active and the BBI-SS PAS is run as a job, specify the user ID of the job.

You can establish this user ID in one of the following ways:

- **RACF**
  - Add the USER parameter to the JOB statement.
- **CA-ACF2**
  - Add a /*LOGONID statement after the JOB statement.

- If security is active and the BBI-SS PAS is run as a Started Task, specify one of the following:

  - **RACF**
    - This value is specified in the security system’s Started Procedure Table (ICHRIN03) for the BBI-SS PAS procedure.

  - **CA-ACF2**
    - A /*LOGONID card can be added to the BBI-SS PAS startup procedure.

**Note:** You can display the active authorization ID by starting the BBI-SS PAS and issuing the DB2 command: `-DIS THD(*)`. The authorization ID is displayed in the AUTHID column for the active BBI-SS PAS connection.

CA-TOP SECRET is capable of overriding the authorization ID with either nonprintable characters, or the word *BYPASS*.

If an override occurs, take the following steps:

a. Issue the following CA-TOP SECRET commands to define the BBI-SS PAS ACID to CA-TOP SECRET.

**Note**

The ACID is the BBI-SS PAS authorization ID to DB2.

```sql
TSS CREATE (X) FACILITY(STC) *NOPW* DEPT(ZZZ)
TSS ADD(X)
TSS ADD(STC) PROC(Y) ACID(X)
```
Perform the GRANT authorizations that were specified in Step 1 on page 19.

Consult your security administrator to determine the authorization procedures for your particular security system.

**To bind and authorize the DB2 Plan name for DB2 targets**

The BBI-SS PAS uses a DB2 Plan to connect to DB2 by using the CAF function. The DB2 Plan default name is BMCMVDB2. You can modify the default name for each DB2 by specifying the PLAN= parameter in the DMRBEXxx member in BBPARM.

For each target DB2, the DB2 plan name must be bound and authorized. This process is done automatically during MainView configuration, or you can complete the process manually by taking the following steps:

1. Edit sample job DZBIND, in the BBSAMP dataset for a DB2 target.

   See the following sample statements for BIND and GRANT:

   ```
   **Example**
   
   Sample BIND statement:
   `BIND PLAN(BMCMVDB2) PKLIST(BMCCOLLID.*) ACT(REP)`
   
   Sample GRANT statement:
   `GRANT EXECUTE ON PLAN BMCMVDB2 TO PUBLIC;`
   
   2. Repeat Step 1 on page 27 for each DB2 target.

---

**Defining the connection to the MainView for DB2 - Data Collector**

Use the following procedure to activate the functions that are provided by the MainView for DB2 - Data Collector component.

MainView configuration supports these steps, or you can do them manually.
To define the connection to the MainView for DB2 - Data Collector

1 If you did not run the MainView configuration, activate the interface from the BBI-SS PAS to the Data Collector as follows:

   a Concatenate the Data Collector load library (if it is different than the MainView for DB2 BMCLINK). For more information, see the Installation System Reference Manual.

   b Manually allocate the following runtime libraries in the MainView for DB2 BBI-SS PAS JCL to the STEPLIB DD:

      ■ BBLINK
      ■ PSSLINK
      ■ DBCLINK
      ■ PWDLINK
      ■ DOMLINK
      ■ USCLINK

   **Note**

   If you are installing the OPERTUNE product you should include the OPERTUNE load library, DDTLINK (if BMCLINK was not created). Including the load library to activate the API will also activate the MainView for DB2 interface to OPERTUNE that allows you to change ZPARMs from views. Before any change is allowed, security is checked in MainView for DB2 and OPERTUNE.

This step activates the connection logic and allows trace data that was collected in the Data Collector to be retrieved and displayed in MainView for DB2 views.

   You need to indicate the Data Collector to which BBI-SS PAS should connect. You can direct the PAS to connect to a specific Data Collector by specifying the parameter CDC in the BBPARM member DMRBEXxx for each DB2 target.

2 Start the Data Collector started task by using the customized procedure DOMssid, in the UBBSAMP library.

   If you are migrating from a previous release, use the Data Collector procedure in the DOMPROC member of the BBSAMP data set.

3 To enable hyperlinks from MainView for DB2 views to related reports in the other DB2 Performance products and some additional MainView for DB2 - Data Collector reports, manually move the CLIST DOMC from hilevel.BBCLIB to hilevel.SBBCLIB and ensure that hilevel.SBBCLIB is allocated in the MainView CLIST by the BBCLIB DD statement after hilevel.BBCLIB.
4 Ensure that the password that you included in the MainView BMCPSWD data set (BDSTBL3x for MainView for DB2, SPDTBL3x for the System Performance for DB2 solution, or MV2TBL3x for the BMC MainView for DB2 Management solution) is also included in the Data Collector HLQ.BMCPSWD data set.

**Note**
If you need to make changes to the Administration dialog when the Data Collector is running and the MainView for DB2 – Data Collector component is not yet configured, you can use the LGCISPF member of the UBMCCLIB data set to invoke a Report Manager session and access the online Administration panels.

---

**Defining the connection to CATALOG MANAGER for DB2**

Use the following procedure to enable the hyperlinks from MainView for DB2 views to CATALOG MANAGER to display information from DB2 catalog tables. MainView configuration supports these steps.

**To define the connection to CATALOG MANAGER for DB2**

1 Choose one of the following options:

   - If you ran MainView configuration
     
     This step is done automatically. Skip to Step 2 on page 30.

   - If you did not run MainView configuration
     
     Take the following steps:

     a Manually allocate a `hlq.SBBCLIB`, and concatenate it to the BBCLIB DD allocation.

     b Move the customized DMRACT CLIST into `hlq.SBBCLIB`.

You must provide the following information from your CATALOG MANAGER installation:

- `HLQ(cathlq)`—`cathlq` identifies the high-level qualifier of the CATALOG MANAGER data sets.

- `MVHLQ`—the high-level qualifier of the MainView for DB2 data sets.

- `DOPTS(ACTDOPD1)`—ACTDOPD1 is the default options module.
Note
No password is required in the CATALOG MANAGER LOAD library for browse access from MainView for DB2.
You can only access DB2s that are in a different LPAR from a User Address Space (UAS) if you have defined DDF connections between your DB2s, and have enabled DDF usage in CATALOG MANAGER.

Note
If you have a full license for CATALOG MANAGER for DB2, you must add the CATALOG MANAGER password library to the ISPLLIB LIBDEF definition in the DMRACT clist, or copy the password module directly into the HLQ.ACTLINK.

2 To activate the connection to CATALOG MANAGER, edit member DMRACTR in UBBPARM (original source in member DMRACTR in BBPARM). Specify the CATALOG MANAGER version number in the first four characters of the line. (For example, version number 12.1 is specified as 1210.)

Defining the connection to System Performance for DB2

Use the following procedure to activate the SPD System Performance for DB2 hyperlink on the MainView DB2 Options panel.

Note
If you used MainView configuration this procedure is not necessary as the hyperlink is activated automatically.

You must access SPD from this option (not DOMCLIST) to enable access to full MainView functionality from the solution panels.

To define the connection to System Performance for DB2

1 Manually allocate a hlq.UBBCLIB, and concatenate it to the BBCLIB DD allocation
2 Move the customized SPD CLIST into hlq.UBBCLIB.

Customization of the application trace facility

This section describes how to manually:
- Specify trace defaults in BBPARM member DMRBEXxx
- Set up and maintain a trace directory and trace log data sets
- Set up continuous workload history traces

A request for a trace can also request that the trace data be recorded to VSAM data sets for later viewing or printing. The logging of trace data requires a preallocated trace directory that must be identified to BBI. Setup of the trace directory can be done automatically by MainView configuration, as described in the *Installation System Reference Manual* or manually, as described in “Set up and maintain a trace directory” on page 35. Trace log data sets can be preallocated, or allocated dynamically at the time of the trace request.

By defining one or more traces to start automatically, a continuous workload history is available for later viewing or printing.

**Note**

For information about setting up Data Collector trace data sets, see information about DOMPLEX option sets.

**Related Information**

- “Working with DOMPLEX option sets” on page 85

---

**Specification of trace defaults**

The DMRBEXxx member of the BBPARM data set defines trace request defaults per DB2 system, which prime the options for the trace request data entry panels.

This member is also used to control other product features. For more information about the DMRBEXxx member, and how to reset the trace request defaults, see “Customize background processing” on page 44.

All of the DMRBEXxx entries must be specified by using a DB2 Target entry if multiple DB2 Subsystems are defined in the MainView for DB2 BBI-SS PAS.

This section describes the DMRBEXxx keywords that define option defaults for:

- “DB2 accounting classes” on page 32
- “General trace options” on page 32
- “Detail trace options” on page 33
- “Trace logging options” on page 34
**DB2 accounting classes**

One keyword can be used to define the accounting classes for which data collection is desired.

These classes are included on the MainView for DB2 trace request to DB2 that supports your collection of accounting data. The keyword is as follows:

\[ ACCTG=(1,2,3,7,8,10) \]

where any combination of these accounting trace classes can be specified

The list must be defined within parentheses. The default is class 1 only.

---

*Note*

The use of this keyword is only needed, or recommended, if an accounting trace (normally written to SMF) is not already active in DB2, because MainView for DB2 will automatically receive the data from the active classes that are specified in DB2.

---

**General trace options**

The following keywords define the defaults for the trace display buffer size (STORAGE option) and trace duration (STOP option).

These options apply for any trace and are presented when a trace is requested.

**STORAGE**

Specifies the size of the display buffer for the requested trace

This value overrides the value defined in BBIISP00.

**TRTIME**=n

where \( n \) specifies the default duration of a trace in minutes (1 to 32,000)

The default is no limit.

---

*Note*

If TRTIME is specified, the STOP keyword in the ATRAC Start DB2 Trace Request dialog is primed with this value. If a value is not specified, STOP is not primed. A STOP value that is not in the hh:mm:ss format is interpreted as a STOPCNT value in minutes.

---

The following DMRBEXxx keyword lets you set a limit for the total amount of storage allowed for a trace:
TRLIM=\textit{n}K|\textit{nnnnnn}

where \textit{n} can be 1 to 8 characters as kilobytes (K) or bytes

It specifies the upper limit on the total storage that can be allocated for any one trace. If the storage is not specified in K (kilobytes), the value of \textit{n} is in bytes. The default value is the product of the default TRBUFF and TRSIZE multiplied by 2.

IFIBUFF=\textit{n}

where \textit{n} specifies the size in kilobytes of the IFC managed trace (OP\textit{x}) buffer and the IFI return area that is used for each DB2 START TRACE request. All summary traces, workload monitors, and lockout IFCIDs use a single DB2 START TRACE request. Each detail trace uses a separate DB2 START TRACE request.

Specify a value from 256 to 65535. If you specify a value beyond this range, the value is adjusted to fall within the range. The default is 256, which is usually adequate. Multiple concurrent traces or a high volume of threads might require more than 256.

The maximum value of 65535 exceeds the current buffer size limit for a START TRACE request, but enables the IFIBUFF keyword to accommodate multiple versions of DB2, and future increases to the buffer size limit. The START TRACE request will actually use a buffer size that is closest to the IFIBUFF value and within the range of 256 to 16384.

The size of the IFI return area will be the same as the IFC managed buffer, up to a maximum size of 1024.

The IFC managed trace buffer is obtained in extended common storage (ECSA). The IFI return area is obtained in extended private storage (EPVT) of the BBI-SS PAS.

\textbf{Note}

The IFC managed trace buffer is not freed. It is reused for each subsequent START TRACE request that is associated with a given OP\textit{x} destination.

\section*{Detail trace options}

The following keywords define the defaults for the data collection buffers (TRSIZE and TRBUFF options) and limit the total amount of storage allowed for detail trace data collection.

A pool of buffers is maintained for each detail trace that is active and is GETMAINed in Extended Private Area. One of these buffers is allocated at CREATE THREAD time per active thread that is being traced. The following DMRBEX\textit{xx} parameters, or
an ATRAC Start Trace request, define the size and number of these buffers. The buffers can be specified per DB2 system.

The values for these DMRBEXxx keywords prime the ATRAC data entry panel:

**TRBUFF=nnn**

where *nnn* is the number of buffers to be allocated for a detail trace request

The number should be at least equal to the number of concurrent active threads being traced in DB2 plus 10%. The default is 0. If TRBUFF is specified with an ATRAC request, it overrides the TRBUFF value in DMRBEXxx.

**TRSIZE=nnnK**

where *nnn* is the size in kilobytes of each buffer

This number is rounded to a multiple of 4K. This size multiplied by 2 determines the maximum amount of data that can be traced for one thread without trace logging. The default is 400K. If TRSIZE is specified with an ATRAC request, it overrides the TRSIZE value in DMRBEXxx.

---

**Example**

For example, DMRBEXxx could specify

TARGET=DB2P
TRBUFF=20
TRSIZE=32K

Total pool size is 20×32K = 640K.

---

**Note**

If the trace is not logged, the data is truncated if more events are being traced for one transaction than fit in 2 buffers. To trace long-running batch programs, or to trace many lock events (DETAIL, LOCK), it may be necessary to increase TRSIZE or to log the trace.

---

**Trace logging options**

The following keywords define the defaults for a trace log data set allocation request:

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRPREFIX</td>
<td>Defines the data set name prefix for trace log data sets if the value for the Log DSN option on the Start DB2 Trace Request dialog is specified without quotation marks. If a value for TRPREFIX is not defined, the ID of the user requesting the trace is used.</td>
</tr>
</tbody>
</table>
Set up and maintain a trace directory

Before a request for trace logging can be started, a trace directory must be preallocated and initialized.

This topic describes how to set up the trace log directory by using sample members in the BBSAMP data set and BBPARM member BBIISP00. It also describes how to automatically delete completed trace entries at PAS initialization, and at the end of each day.
If a security management system is installed, you may need to grant the BBI-SS PAS authority to allocate trace log data sets dynamically.

**Define and initialize a trace directory data set**

Each BBI-SS PAS contains one trace directory.

The trace directory is a VSAM linear data set that contains one entry for each trace log data set. Each entry indicates the date and time of data set creation, the current status of the data set, the trace target, and other related information. Entries can be added to or deleted from the directory to allow trace logs to be moved between systems.

Use the following BBSAMP sample member to define and initialize the trace directory:

**JXT001**

1. Add your job card.
2. Update the symbolics as necessary.
3. Submit the job.

**Identify the trace directory to BBI**

Use the following BBPARM member to identify the trace directory to BBI:

**BBIISP00**

\[ \text{TRDIR}=dsn,\text{SUBSYS}=ssss \]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dsn</td>
<td>Represents the data set name of a trace directory for MainView for DB2 trace logging (there is no default name) The directory must be allocated and initialized before any trace can be started with trace logging. BBSAMP member JXT001, described previously, creates the trace directory.</td>
</tr>
<tr>
<td>ssss</td>
<td><em>(optional)</em> Subsystem name to which this trace directory applies</td>
</tr>
</tbody>
</table>
Verify trace directory entries

Trace directory entries are not updated automatically by events occurring outside of the BBI-SS PAS, such as data set deletion or archival.

So, you may occasionally need to synchronize the trace directory information with the actual status of the data sets. Use the following BBSAMP member to verify, purge, or print directory entries. This member checks for the existence of a trace log data set in the system catalog.

**Note**
Because every entry in the trace directory is allocated dynamically and read to verify its current status, this process could run for some time.

JXT003

1 Add your job card.

2 Update the symbolics as necessary.

3 Specify the processing option for PARM:

**Note**
The use of PARM determines the action to be taken.

<table>
<thead>
<tr>
<th>Processing option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blank</strong></td>
<td>If PARM is not specified (default), an uncataloged entry is marked as INV (INVALID).</td>
</tr>
<tr>
<td><strong>ARCVOL</strong></td>
<td>If ARCVOL (Archive Volser) is specified, this value is matched against the volser in the system catalog for each data set in the directory. If matched, the data set is not verified. This feature allows a site to bypass recalling all trace log data sets from archives. Use only the first six characters of the Archive Volser. For example, Volser=MIGRAT1 would become ARCVOL=MIGRAT.</td>
</tr>
<tr>
<td><strong>LIST</strong></td>
<td>Lists the directory entries that are changed. If NOVERIFY is specified or implied, all entries are listed (equivalent to LISTALL).</td>
</tr>
<tr>
<td><strong>LISTALL</strong></td>
<td>Lists all entries.</td>
</tr>
<tr>
<td><strong>NOLIST</strong></td>
<td>Does not list changed entries.</td>
</tr>
<tr>
<td><strong>PURGE</strong></td>
<td>Deletes any data sets in the directory that are invalid trace data sets.</td>
</tr>
<tr>
<td><strong>NOPURGE</strong></td>
<td>Does not delete invalid data sets (marked as INV (INVALID) in the directory).</td>
</tr>
<tr>
<td>Processing option</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>VERIFY</td>
<td>Verifies each of the entries in the trace directory.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If VERIFY is specified, the defaults are LIST, WRITE, and NOPURGE.</td>
</tr>
<tr>
<td>NOVERIFY</td>
<td>Does not verify entries in the trace directory.</td>
</tr>
<tr>
<td>WRITE</td>
<td>Updates the trace directory with status changes.</td>
</tr>
<tr>
<td>NOWRITE</td>
<td>Does not update the trace directory with changes detected.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If no PARM is specified, no action is taken.</td>
</tr>
</tbody>
</table>

4 Submit the job.

**Enable automatic deletion of completed trace entries**

If you regularly use MainView for DB2 to start many traces that perform logging tasks, you can easily reach the maximum number of trace entries that the trace directory can store. Reaching the maximum prevents the BBI-SS PASs from starting new traces until you delete the completed entries. Although you can use online history trace administration commands to delete the entries, in high-use environments, this manual process can become tedious.

You can enable automatically deleting completed entries by specifying the TLDSAGE parameter in BBPARM member BBIISPxx. Specify the parameter in one of the following formats:

- TLDSAGE=nnn
- TLDSAGE=(nnn,DELDSN)

```
nnn represents the number of days to wait (valid values are 1 through 999) before automatically deleting an entry from the trace directory. The DELDSN keyword also deletes the trace log data set (TLDS).
```

The deletion process occurs during the following events:

- When the BBI-SS PAS initializes
- Daily, after midnight

When you specify TLDSAGE, any migrated trace directories are recalled during BBISS PAS initialization. Consequently, BMC recommends specifying a value of TLDSAGE=999 to prevent traces that perform logging tasks from failing when the trace directory is migrated.
In addition, messages appear in the BBI-SS PAS journal and job logs to notify you that traces have been deleted:

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBQTDL06I</td>
<td>Deleting trace entries older than xxx days</td>
</tr>
<tr>
<td>BBQTDL08I</td>
<td>Deleted xxx entries from the trace directory</td>
</tr>
</tbody>
</table>

**Example**

The following examples show messages that are written to the BBI-SS PAS journal:

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBQTDL07I</td>
<td>TLDS entry deleted for BOLTSM.BCVTM67C.L1.T1220.V01</td>
</tr>
<tr>
<td>TL1031I</td>
<td>BOLTSM.BCVTM67C.L1.T1220.V01 PURGED</td>
</tr>
</tbody>
</table>

This example shows messages that are written when you specify the DELDSN keyword:

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL6800I</td>
<td>IDC0550I ENTRY (D) BOLTSM.BCVTM67C.L1.T1220.V01.DATA.DELETED</td>
</tr>
<tr>
<td>TL6800I</td>
<td>IDC0550I ENTRY (C) BOLTSM.BCVTM67C.L1.T1220.V01.DELETED</td>
</tr>
</tbody>
</table>

**Manage trace log data sets**

This section describes how to create and manage trace log data sets manually by using sample members from the BBSAMP data set.

**Define a trace log data set**

You can define different trace logs as often as you need them, or you can let the BBI-SS PAS allocate them for you dynamically (see the JXT011 sample job description in the *MainView for DB2 User Guide*).

**Archive a trace log data set**

A trace request can be defined to archive a log data set automatically when it is full, as described in the DZTBARC sample job description in the *MainView for DB2 User Guide*.

A trace log data set that is no longer active can be archived on demand by submitting this job manually.

**Restore an archived trace log data set**

Use BBSAMP member DZTBRLOD to restore an archived trace log data set.

**Note**

You also can add the linear data set to the online trace directory and view the contents online. Use the NEW command on the History Traces view as described in the *MainView for DB2 User Guide*. 
Print a trace log data set

Use BBSAMP member DZTBTRAC to print a trace log data set. For a description of this sample job, see the MainView User Guide.

Printing from an online application

You also can print a trace log data set from the History Traces view with the P (Print) line command when executing the terminal session from ISPF.

This process requires that you customize the skeleton JCL in member DZJPTRAC in the BBPROF data set. You can tailor this member to an individual user (UBBPROF data set) or site (SBBPROF data set). The data set must be defined in the CLIST that is used to execute the terminal session (MainView CLIST or a copy).

Use MainView configuration to modify this member automatically or manually change the &DLIB variable to your BBLINK data set name.

Setup standard traces for workload history

You can use the BBIISP00 member of the BBPARM data set to select a group of timer-driven monitor and trace requests to start automatically.

These requests are defined in another member of the BBPARM data set. If you specify the default block request member BLKDMRW in BBIISP00 (TARGET=db2id,BLK=BLKDMRW), a starter set of monitors and two summary traces are requested:

- REQ=ATRAC THRDHIST TYPE=SUMMARY TITLE='THREAD HISTORY' *
  STORAGE=4000K LOGTRAC=Y TRNUMDS=3 TRSWTIME=24:00

This is a summary trace of the complete DB2 workload. It should be run as a standard request to provide viewing and printing of thread history. You can access this trace from the following locations:

- HTLOGs view hyperlink field **Number of Records**
- EZDB2 easy menu option **Current Traces**
- EZDBA easy menu option **Traces - Current / ST**

Because this trace adds very minimal overhead, it requires only the DB2 Accounting trace. The second line of the trace is a comment that shows you how you can define trace logging to a group of three data sets, automatically switching to a new data set at midnight. Depending on your DB2 workload volume and operations procedures, you might need to modify some of the keyword values or specify other values. All options are defined in the BBPARM member BLKDMRKY. For more information, see the MainView User Guide.
values for all traces, such as the volumes to be used for allocation, see “Specification of trace defaults” on page 31.

If you choose to capture accounting data in the MainView for DB2 - Data Collector to support batch processing, you might want to keep a shorter online history in THRDHIST and the MainView for DB2 - Data Collector data are available for online analysis through the Thread Workload History views. Because the MainView for DB2 - Data Collector data is compressed, you might be able to keep more history available online through this option. You can use drilldown options to view the detailed accounting records for a selected interval.

Use one of the following methods to set up a continuously logging trace. Evaluate your system characteristics and choose the method that best meets your requirements.

— Each time the trace request is started (at BBI-SS PAS startup), one or more new trace log data sets are allocated automatically, as shown in the preceding trace. Because no DSN is specified, the generated name will always be unique (specifying TRPREFIX in DMRBEXxx defines the hilevel node). This method can be used if z/OS and the BBI-SS PAS are rarely brought down. However; if the log allocation fails, perhaps due to lack of space, the trace request also fails.

— Set up a group of preallocated logs (any number of them) that are continually reused. An archive job can be defined to run automatically (log full, log switched, or trace complete) to save the data and mark that log for reuse. Each time the BBI-SS PAS starts, and this trace request is started, the next available log with the oldest data is chosen automatically for output. This method uses fewer online log data sets. However; if you require archiving this method might require intervention after any unplanned outage of z/OS or the BBI-SS PAS as the archive job on the current log cannot run. If you do not require archiving, specify TRREUSE=Y to allow overwriting of a log without it being reset.

   **Note**

   If you have a very high volume of threads in some DB2 subsystems, you might want to reduce the amount of data that you keep on THRDHIST trace logs and set up the Data Collector to provide continuous collection of thread history. The collection and storage are optimized to handle large volumes. Use the Data Collector administration panels to adjust the number and size of the active trace data sets to handle the expected volume. The archive process creates files compatible with SMF data.

- **REQ=ATRAC BIGELAP TYPE=SUMMARY ELAP=10.0**

  This is an example of an exception trace that captures only those transactions or queries that run longer than 10 seconds. More exception filters can be added, or workload selection criteria can be added, such as **DB2CONN=cicsjobname**.
Setup recommendations

You should consider several points before the Application Trace is heavily used.

- Set the dispatching priority of the BBI-SS PAS higher than DB2.
  This setting is most important for the DB2 DBM1 and MSTR address spaces. It is not necessary for IRLM. If the BBI-SS PAS does not get enough resources to complete its work in a reasonable time period, U3912 or U3920 timeout abends can result. These abends are recoverable, but disruptive.

  This setting is recommended for most monitoring functions, but it is most important for detail traces. When a detail trace is requested by the user, MainView for DB2 starts a DB2 trace by using the Instrumentation Facility Interface (IFI). DB2 GETMAINs a buffer in ECSA and uses this buffer to pass the detail data to MainView for DB2. If MainView for DB2 processing cannot keep up with the DB2 activity (transferring the filled buffer), trace data is lost.

- Evaluate whether to increase the BBI-SS PAS region size.
  The data buffers MainView for DB2 uses to collect and store trace data are all GETMAINed in the Extended Private Area (EPVT) of the BBI-SS PAS. The usual z/OS default size of EPVT is 32 megabytes; this size can be increased by specifying a larger REGION parameter in the BBI-SS PAS startup JCL (SSJCL). This value is an upper limit, not an allocation at startup; the extra storage is GETMAINed only when required for trace requests. If the BBI-SS PAS is monitoring multiple DB2s and you plan to run several concurrent detail traces, a size of 60 megabytes to 100 megabytes is recommended. Depending on the trace buffer specifications used, the usage of EPVT per DB2 (to support any number of summary traces and the maximum of four detail traces) can vary between 3 megabytes to 40 megabytes or more. Check the following buffer descriptions to estimate your average and maximum storage requirement.

- Adjust the trace buffer storage defaults per target DB2.
  The following buffers are available:

  — IFIBUFF
  The buffer GETMAINed by MainView for DB2 in BBI-SS PAS EPVT and the OPx buffer are obtained by the DB2 IFC in ECSA for each DB2 -START TRACE request issued. One of each type of buffer is used for all summary traces, workload monitors, and lockout IFCIDs. One of each buffer type is used for a maximum of four detail traces. The default size of 256 KB is normally adequate.

  **Note**
  DB2 allocates up to eight OPx buffers, one for each unique OPx destination, with a maximum size of 16 MB. An OPx buffer is not freed when the MainView for DB2trace is stopped. It is reused when another DB2 - START TRACE request uses the same OPx destination. If the DB2 Monitor Trace is stopped manually or if the BBI-SS PAS is shutdown, the OPx buffer is freed.
—STORAGE buffer

The online display buffer GETMAINed by MainView for DB2 in the BBI-SS PAS EPVT for each trace request, whether summary or detail. This buffer is kept as long as the trace is active or complete so you can view the data. It is freed when the trace is purged from the Current Traces list. The size of this buffer determines the amount of trace data you can view from a current trace (more data may be available from History Traces if the trace was logged). A value of 400K to 2000K (2 megabytes) is recommended. This value can be defined per DB2 in BBPARM member DMRBEXxx.

For a detail trace, the default size is automatically adjusted to at least 4 times TRSIZE.

—TEMPORARY USER DISPLAY buffer

One buffer is GETMAINed by MainView for DB2 in the BBI-SS PAS EPVT for each user who is viewing a trace display. It is slightly larger than the STORAGE buffer. (This buffer is not under user control.)

—DETAIL TRACE EVENT CAPTURE buffers

Multiple buffers are GETMAINed by MainView for DB2 in the BBI-SS PAS EPVT for each detail trace request. The number and size are controlled by the TRBUFF and TRSIZE parameters. The buffers are released when the detail trace is stopped (data collection complete) or purged. These values are also specified per DB2 in DMRBEXxx. The defaults are TRBUFF=0, TRSIZE=400K. TRSIZE=200K usually allows tracing of three to four concurrent threads at the SQL level; however, the defaults should be increased for the following conditions:

—Most tracing is of online transactions, where many concurrent threads must be traced.

**Action:** Increase TRBUFF to three times the expected number of threads.

—Most tracing is of long-running applications, or more event types are often traced (SCANS, I/O, LOCKS).

**Action:** Increase TRSIZE to 400K (and reduce TRBUFF if possible).

You need to balance all these parameters to control total storage usage. Review TRLIM to ensure that it allows for the allocations caused by the revised STORAGE, TRBUFF, and TRSIZE parameters.

- Adjust the default for trace log data set size.

Increase TRCYL (default is three cylinders) when longer detail traces with many events per thread are run frequently (long-running jobs/extra event types). For this type of trace, logging is recommended and is requested by default (LOGTRAC=Y). Without logging, data capture per thread is limited to two buffers of TRSIZE. With logging, multiple buffers can be written per thread and combined automatically when recalled online or printed.
Customize background processing

This section describes how to customize the background processing for product functions set up by the administrator to run continuously without user intervention.

This customization includes:

- Exceptions and runaway query messages
- DB2 message logging
- Early warning monitors

*Note*
Workload history traces are described in “Setup standard traces for workload history” on page 40.

Parameter specifications in the DMRBEXxx member of the BBPARM data set customize the first two features, which are activated at BBI-SS PAS startup. You can change any of the exception processing criteria when a BBI-SS PAS is active by editing the DMRBEXxx member and issuing the following BBI control command to activate the changes.

`RESET PARM DMRBEXxx`

For more information, see the *MainView Administration Guide*.

Control exception messages from background samplers

Background sampling is used to detect exception conditions in critical DB2 system resources (such as the logs or buffer pools) and also to detect thread exceptions during execution (runaway queries) that could be serious enough to impact DB2 performance.

Exception messages are shown on the DB2 Exception panel (DB2EX service) while the condition exists, and are displayed chronologically on the LOG DISPLAY.

By default, exceptions are activated. To control the number and type of exceptions for which the background sampler scans, specify the criteria for any background sampler message in BBPARM member DMRBEXxx. For any specified target (the
default is the first target defined in BBPARM member BBIJNT00), you can inactivate or control the conditions for a specific message.

In the following example if a TSO query is using more than 2 seconds of CPU time or if there are more than 1000 GETPAGES and if either or both of these two conditions have been true for the last four cycles, the message DZ0630W identifying that TSO user is displayed on the DB2 EXCEPTION panel and on the associated BBI-SS PAS’s LOG DISPLAY panel.

**Example**

```
TARGET=DB2XMSG=DZ0630W,CPUTOT=2000,GPTOT=1000,CYCLES=3
```

**Note**

At present, a cycle is defined as approximately 5 seconds.

See BBPARM member DMRBEXxx for a complete description of options and syntax, and DMRBEXXB for definitions of each exception condition. DMRBEXxx also includes instructions for disabling a particular message or message threshold. See the *MainView User Guide* for a list of all exception messages and a description of the conditions that are detected.

### Log DB2 messages

All DB2 messages that are issued to the system console from selected target DB2 subsystems can be captured and written to the BBI-SS PAS Journal log.

This function is defined in BBPARM member DMRBEXxx. The default is not to capture the DB2 messages (*LOG=NO*). To activate their capture for a specified target, specify *LOG=YES*.

**Example**

```
TARGET=DB2XLOG=YES
TARGET=DB2YLOG=NO
```

logs the messages from DB2X and not from DB2Y.

**Note**

Because this setting is queried only at initialization time, it cannot be changed dynamically. The RESET command does not change this parameter.

To process the DB2 messages when a MainView AutoOPERATOR product is installed with MainView *for DB2*, specify rules with:

```
ORIGIN=DB2
```
Set up and refine standard early warning monitors

Monitors are timer-driven services that measure key DB2 resource or workload variables over time.

Exception conditions are detected based on user-specified thresholds, which allow early warning of system problems. Recent history of the measurements is kept online for trend analysis. Warning messages are sent to the STEXC view, the DB2 Exception panel (DB2EX service), and to the LOG DISPLAY, just like the background sampler exceptions.

A standard set of monitors can be defined to be started automatically per DB2 subsystem. The BBIIISP00 member of BBPARM allows the specification of another BBPARM member containing a block of predefined monitor and trace requests. The standard customization steps in MainView configuration, or the manual procedures described in the MainView Customization Reference, define a sample set of monitors to be activated (member BLKDMRW).

After these monitors have been activated and have collected sufficient history, the warning thresholds should be reviewed and adjusted for each DB2 target, so that the proper exceptions will be triggered, as follows:

1 Select the plot of recent history for each active monitor from the Start monitors (SM) view.

2 Compare the threshold (shown with a vertical line of Ws if defined) to the average values measured (top three lines of the graph), and also to the maximum value measured (shown at the bottom of the graph, either alone or as the highest value in the range distribution).

3 Adjust the threshold so that a warning is triggered only when the condition is serious enough to warrant attention.

Other monitor services can be added to the standard set over time.

Tip
As other problem conditions are encountered in DB2 or the system profile changes, spend a few minutes on prevention by reviewing the available monitors and background samplers to define an early warning that could reduce or avoid future occurrences of system degradation.
Create alerts from monitor exception messages

MainView provides alert views that consolidate exception messages from multiple products, and include user-defined alarms (MainView Alarm Manager) and MainView AutoOPERATOR alerts.

If MainView AutoOPERATOR is not used to post MainView for DB2 exception messages as alerts, you can request that MainView for DB2 create the alerts automatically, including both monitor and background monitor exceptions. This request is made per DB2 with the ALERTQ operand on the TARGET statement in the BBPARM member BBIISP00. For more information about this statement, see the MainView Customization Reference.

Alerts are posted to the views by using the specified queue name, and the alert is removed automatically when the warning condition is resolved. If you choose an alert queue name that can be used consistently for both MainView for DB2 monitors and alarms, such as "DB2" or "MVDB2," you can focus on just the DB2 messages in that queue when needed. Each alert entry shows the exception message and provides a hyperlink to a related view to simplify analysis of the problem that is causing the alert.

**Note**

If these exception messages are already being processed into alerts by MainView AutoOPERATOR rules for Journal messages, this parameter is not needed. Specifying it could cause duplicate alerts.

Customize DB2 services

BBI has a modular, table-driven design so that you can easily tailor DB2 to meet specific needs.

This section focuses on security and how to restrict the services that the user can access by modifying the analyzer, monitor, and trace services.

Modify a service

Trace services are defined in service tables that are located in BBLINK library load modules. You can use the BBPARM member IMFSTD00 (service table definition member) to modify the security and title specifications of any service. See related information about security for analyzer, monitor, and trace services before changing these specifications.
When your system is started, any changes that were placed in IMFSTD00 are implemented.

**Note**
You can set security restrictions that simplify the choices presented to the user. These restrictions ensure that the user can only see the services that they have clearance for. For an example of how to set up the security codes by DB2 functional area (such as user activity or buffer pools) and how to relate these codes to user groups (such as DBAs or system programmers), see the BBSAMP member DMRSTD00. See related information about service selection lists by user group.

**Related Information**
- “Security for monitor and trace services” on page 69
- “Service selection lists by user group” on page 70

**Service table definition**

Use BBPARM member IMFSTD00 to change the title and security specifications of existing services.

The following rules apply when creating IMFSTD00:

- A BBIPARM DD statement must exist in the BBI-SS PAS jobstream and it must contain the member IMFSTD00.

- All 80 columns of each statement can be used for specifying the various keywords and their values. Sequence numbers can be placed in columns 73 to 80, but at least one blank must exist between the last specification and the sequence number.

- All the keywords needed to modify a given service can be either specified on one statement or split over multiple statements.

- A specific keyword and its value or values must be contained in the same specification statement.

- Comments are designated with an asterisk (*) in column 1. Comment statements can be interspersed with specification statements.

- Comments are allowed within specification statements if one blank separates the specification from the comment.

- Commas can be used as delimiters in statements; leading blanks are ignored.
- The REQUEST keyword must appear first in a statement and must be followed immediately by the SERVICE keyword and then by the DB2REL keyword.

- If any syntax errors are found in a request to modify a service, the accepted keywords up to the error are used to execute a partial change to the service table.

The following table lists the valid keyword parameters for IMFSTD00 and describes the syntax for each.

**Table 2: Service table keywords and parameters**

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Keyword description</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQUEST</td>
<td>Identifies the start of a new service table entry change</td>
<td>MODIFY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specifies that an existing service definition is to be changed</td>
</tr>
<tr>
<td>SERVICE</td>
<td>Identifies the name of the service to be modified</td>
<td>xxxxxx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specifies a 1- to 5-character service name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It must be an existing service name.</td>
</tr>
<tr>
<td>DB2REL</td>
<td>Identifies the release level of the service to be modified</td>
<td>nnnn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specifies the DB2 release as one of the following values:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ 1210 (DB2 12.1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ 1120 (DB2 11.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ 1110 (DB2 11.1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This parameter is required and must follow the SERVICE parameter.</td>
</tr>
<tr>
<td>TITLE</td>
<td>Identifies the title to be given to a service</td>
<td>x........x</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specifies a 1- to 24-character title, which changes the existing title</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Begin and end the title with single quotation marks if it contains blanks or commas.</td>
</tr>
<tr>
<td>ACCESS</td>
<td>Identifies the access code that is required to use this service</td>
<td>A (any alphabetic character A through Z)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specifies the access code that is matched with the user’s authorized access code</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See the PMACC keyword in BBPARM USERID members.</td>
</tr>
</tbody>
</table>

**Example**

REQUEST=MODIFY,SERVICE=DB2EX,DB2REL=1210,ACCESS=B
changes the security access code of an existing service.
Setting up performance batch reports

To produce batch reports, you must first customize the MainView for DB2 Performance Reporter component. You can customize Performance Reporter either by using MainView configuration, or by manually completing the following tasks as instructed in this topic:

- “Setting up Performance Reporter defaults” on page 51
- “Preparing tables for Performance Reporter” on page 54
- “Binding the required plans” on page 61
- “Tailoring the JCL” on page 62
- “Verifying your batch reports” on page 66

**Note**

No initial customization is required to use Data Collector batch reporting. For more information, see the section about Data Collector reporting facilities in the MainView for DB2 Performance Reporter User Guide. To use archived Data Collector trace data sets as input to batch reporting, see the System and SQL Performance for DB2 Administrator Guide.

**Before you begin**

Consider the following tips and prerequisites before proceeding:

- If you have the BMC LOADPLUS product installed, analyze your environment to determine which table load utility is better suited to your environment:

  — IBM LOAD or BMC Next Generation Technology Load for DB2 for z/OS (NGT Load), in which each table is in its own table space
  — BMC LOADPLUS, in which all tables are in one table space

**Note**

BMC NGT Load is the preferred BMC table load utility. Future releases of MainView for DB2 will not support BMC LOADPLUS.

- Ensure that you have the SYSADM/SYSCTRL privileges on the DB2 system that will contain DB2 objects for Performance Reporter to use.
- Ensure that you have defined the necessary operational defaults for allocating the jobs that MainView for DB2 will use. (If you specified these defaults during MainView configuration, a COMPLETED status is shown.)

- Before customizing Performance Reporter manually, create UBBPARM and UBBsamp data sets and copy BBPARM to UBBPARM and BBSAMP to UBBsamp.

**Tip**
Sample members use default DB2 object names. If you change one of these names, be sure to change every occurrence in every sample member. To ensure that you change all occurrences, use the DZPRUCNV utility.

To use this utility:

1. Modify the DZPRUJCL sample in UBBSAMP to site standards. (See “Using product libraries” on page 23.)

2. Modify the DZPRUPRM sample, which contains change statements for each object name:
   
   ```
   OLD=defaultName, NEW=newName
   ```

   For each object whose name you want to change, replace `newName` with the preferred name. You can specify all of your name changes and run the utility once, or make individual changes and run the utility whenever you want.

   You can also use this utility to change job defaults in definition jobs (for example, the DB2 subsystem ID). In the DZPRUJCL PROC statement, change `P=NOWRITE` to `P=WRITE`.

---

**Setting up Performance Reporter defaults**

Use the following procedure to define Performance Reporter parameters and STOGROUP usage, and to specify the database and table space for Performance Reporter tables.

**To set up Performance Reporter**

1. Define parameters for dynamically allocating the necessary customization jobs:

   a. *(optional)* Create a member containing a valid JCL job card in a data set that is not a BMC product target or distribution library, such as UBBSAMP.

   You can add this member to each sample job that is used during Performance Reporter customization, as instructed in subsequent steps.
b Define a unit ID for temporary data set allocation parameters, and a unit ID for permanent data set allocation parameters.

2 Define STOGROUP usage for Performance Reporter by using one of the following methods:

**Note**
To estimate how much storage you will need for statistics and accounting data, see “Estimating storage for Performance Reporter data” on page 79.

<table>
<thead>
<tr>
<th>Method</th>
<th>Actions to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a new STOGROUP</td>
<td>Edit member DPCSTOW in UBBSAMP, as follows:</td>
</tr>
<tr>
<td></td>
<td>1 Replace the characters <em>STVLQQ</em> to specify one (or more) VOLSER.</td>
</tr>
<tr>
<td></td>
<td>2 Replace Y characters with the high-level index name (VCATNAME) for the VSAM data sets to be created by DB2.</td>
</tr>
<tr>
<td></td>
<td>3 Change the STOGROUP default DMRPRSG1 name to comply with site conventions, if necessary.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If you change the default STOGROUP name, be sure to note the new name. You will need to provide this name subsequently.</td>
</tr>
<tr>
<td>Use an existing STOGROUP</td>
<td>Specify the STOGROUP name, by using the DZPRUCNV utility with the DZPRUJCL and DZPRUPRM samples.</td>
</tr>
<tr>
<td>Do not use a STOGROUP</td>
<td>Define all data sets for table spaces outside the context of DB2 with IDCAMS DEFINE statements for VSAM clusters by using the proper DB2 naming conventions.</td>
</tr>
<tr>
<td>Use the default DB2 STOGROUP</td>
<td>Specify the installation created default stogroup, if there is one. For example: &quot;USING STOGROUP SYSDEFLT&quot;</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If you use MainView configuration, an empty member, DPCSTOW, is created in the UBBSAMP data set. If you do not use MainView configuration, all DPCSTOW references in the following steps must be deleted manually.</td>
</tr>
</tbody>
</table>

3 Define a unique database for the Performance Reporter tables, using whichever approach you prefer:
<table>
<thead>
<tr>
<th>Method</th>
<th>Actions to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a new database</td>
<td>Edit member DPCDB in UBBSAMP as follows:</td>
</tr>
<tr>
<td></td>
<td>1. If you changed the default STOGROUP name earlier in the procedure, change the STOGROUP name in this sample to the same name.</td>
</tr>
<tr>
<td></td>
<td>2. <em>(optional)</em> Change the default DMRPRDB1 database name to conform to your site’s naming conventions, if necessary.</td>
</tr>
<tr>
<td></td>
<td>To change the default name to your site standards, use the DZPRUCNV utility with the DZPRUJCL and DZPRUPRM samples.</td>
</tr>
<tr>
<td>Use an existing database</td>
<td>Do not create a new database. Code the DDL to use an existing database in the DB2 subsystem.</td>
</tr>
<tr>
<td>Use the default DB2 database</td>
<td>Do not code a database name. DB2 will default to the install defined database, which is usually DSNDB06.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If you use MainView configuration, an empty member, DPCDB, is created in the UBBSAMP data set. If you do not use MainView configuration, all DPCDB references in the following steps must be deleted manually.</td>
</tr>
</tbody>
</table>

4. *(If you are using the BMC LOADPLUS utility)* Define a unique table space for the Performance Reporter tables, using whichever method you prefer:

<table>
<thead>
<tr>
<th>Method</th>
<th>Actions to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a new table space</td>
<td>Edit member DPCSPLP in UBBSAMP as follows:</td>
</tr>
<tr>
<td></td>
<td>1. If you changed the default STOGROUP name earlier in the procedure, change the STOGROUP name in this sample to the same name.</td>
</tr>
<tr>
<td></td>
<td>2. <em>(optional)</em> Change the default DMRPRSP1 table space name to conform to your site’s naming conventions, if necessary.</td>
</tr>
<tr>
<td></td>
<td>To change the default name to your site standards, use the DZPRUCNV utility with the DZPRUJCL and DZPRUPRM samples.</td>
</tr>
<tr>
<td>Use an existing table space</td>
<td>Do not create a new tablespace. Code the DDL to use an existing tablespace in the DB2 subsystem. Not recommended.</td>
</tr>
<tr>
<td>Method</td>
<td>Actions to complete</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Use the default DB2 table</td>
<td>Let DB2 implicitly create a table space for you by issuing a CREATE TABLE statement that does not specify an existing table space. In this case, DB2 assigns the table space to the default database and the default storage group. Note: If you use MainView configuration, an empty member, DPCDB, is created in the UBBSAMP data set. If you do not use MainView configuration, all DPCDB references in the following steps must be deleted manually. Examine the space allocations performed for compatibility with the volumes you plan to use.</td>
</tr>
</tbody>
</table>

## Preparing tables for Performance Reporter

Use one of the following procedures to prepare the tables that Performance Reporter will use:

- “To create new Performance Reporter tables” on page 54
- “To update existing Performance Reporter tables to a newer version” on page 60

**Note**

You cannot change Performance Reporter version 9 and earlier tables into version 12 tables. You must create new tables.

### To create new Performance Reporter tables

1. *(optional)* Using the DZPRUCNV utility with the DZPRUPRM and DZPRUJCL samples, you can change the default names to conform to your site's naming conventions. See the samples in the following table.

   For more information, see “Using product libraries” on page 23.

   **Note**

   If your current Performance Reporter database contains a single segmented table space containing all of the Performance Reporter product tables, BMC recommends that you take the following steps:

   - Create a new Performance Reporter database by using the `HLQ.BBSAMP(DPJCREAT)` member.
   - Place each table in a separate universal table space (UTS).
   - *(if required)* Use the LOAD and UNLOAD commands to move existing table data to the new database.
<table>
<thead>
<tr>
<th>Default table name and description</th>
<th>Default table space name</th>
<th>Create table space/table member (UBBSAMP)</th>
<th>Report members (BBPARM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMRPR.DMRACDTL (accounting table—detail)</td>
<td>DMRPRTAD</td>
<td>DPCSACDT</td>
<td>ACxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRACSUM (accounting table—summary)</td>
<td>DMRPRTAS</td>
<td>DPCSACSM</td>
<td>SAxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRACSM2 (accounting table—summary–2)</td>
<td>DMRPRTA2</td>
<td>DPCSACS2</td>
<td>SAxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRAXDTL (Accounting Accelerator table—detail)</td>
<td>DMRPRXAD</td>
<td>DPTAXDT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRAXSUM (Accounting Accelerator table—summary)</td>
<td>DMRPRXAS</td>
<td>DPTAXSM</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRAXSM2 (Accounting Accelerator table—summary–2)</td>
<td>DMRPRXA2</td>
<td>DPTAXS2</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRAUSUM (audit summary table)</td>
<td>DMRPRAUS</td>
<td>DPCSRAUSM</td>
<td>AUSUM AUDTL</td>
</tr>
<tr>
<td>DMRPR.DMRAUGRV (authorization control—GRANTs/REVOKEs table)</td>
<td>DMRPRAUG</td>
<td>DPCSRAUGR</td>
<td>AUDGRV</td>
</tr>
<tr>
<td>DMRPR.DMRAUFAL (authorization failures table)</td>
<td>DMRPRAUF</td>
<td>DPCSRAUFL</td>
<td>AUFAIL</td>
</tr>
<tr>
<td>DMRPR.DMRAUCHG (authorization ID change table)</td>
<td>DMRPRAUCH</td>
<td>DPCSRAUCH</td>
<td>AUFAIL</td>
</tr>
<tr>
<td>DMRPR.DMRABDTL (buffer accounting table—detail)</td>
<td>DMRPRTID</td>
<td>DPCSABDT</td>
<td>ACxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRABSUM (buffer accounting table—summary)</td>
<td>DMRPRTIS</td>
<td>DPCSABSM</td>
<td>SAxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRABSM2 (buffer accounting table—summary–2)</td>
<td>DMRPRTI2</td>
<td>DPCSABSM</td>
<td>SAxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRSBFDT (buffer statistics table—detail)</td>
<td>DMRPRTBD</td>
<td>DPCSSBDT</td>
<td>STxxxxx</td>
</tr>
<tr>
<td>Default table name and description</td>
<td>Default table space name</td>
<td>Create table space/table member (UBBSAMP)</td>
<td>Report members (BBPARM)</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>DMRPR.DMRSBSUM (buffer statistics table—summary)</td>
<td>DMRPRTBS</td>
<td>DPCSBSBSM</td>
<td>SSxxxxxx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DPCTSBSM</td>
<td></td>
</tr>
<tr>
<td>DMRPR.DMRSBSM2 (buffer statistics table—summary–2)</td>
<td>DMRPRTB2</td>
<td>DPCSBSBS2</td>
<td>SSOVDFDT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DPCTSBS2</td>
<td>SSOVRxx</td>
</tr>
<tr>
<td>DMRPR.DMRADDTL (DDF accounting table—detail)</td>
<td>DMRPRTDD</td>
<td>DPCSADDT</td>
<td>ACxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRADSUM (DDF accounting table—summary)</td>
<td>DMRPRTDS</td>
<td>DPCSADSM</td>
<td>SAxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRADSM2 (DDF accounting table—summary–2)</td>
<td>DMRPRTD2</td>
<td>DPCSADSM2</td>
<td>SAxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRSTDF (DDF statistics table—detail)</td>
<td>DMRPRTSF</td>
<td>DPCSSTSDF</td>
<td>STOVDFDT</td>
</tr>
<tr>
<td>DMRPR.DMRSDFSUM (DDF statistics table—summary)</td>
<td>DMRPRTFS</td>
<td>DPCSSTSFSM</td>
<td>STOVDFDT</td>
</tr>
<tr>
<td>DMRPR.DMRSDFS2M2 (DDF statistics table—summary–2)</td>
<td>DMRPRTF2</td>
<td>DPCSSTSF2</td>
<td>SSxxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRAUDDL (DDL access table)</td>
<td>DMRPRAUD</td>
<td>DPCSAUDL</td>
<td>AUDDL</td>
</tr>
<tr>
<td>DMRPR.DMRAUDML (DML access table)</td>
<td>DMRPRAUM</td>
<td>DPCSAUDM</td>
<td>AUDML</td>
</tr>
<tr>
<td>DMRPR.DMRAUDMB (DML at BIND table)</td>
<td>DMRPRAUB</td>
<td>DPCSAUDB</td>
<td>AUDMLB</td>
</tr>
<tr>
<td>DMRPR.DMRAPDTL (package accounting table—detail)</td>
<td>DMRPRTPD</td>
<td>DPCSAAPD</td>
<td>ACxxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRAPSUM (package accounting table—summary)</td>
<td>DMRPRTPS</td>
<td>DPCSAAPS</td>
<td>SAxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRAPSM2 (package accounting table—summary–2)</td>
<td>DMRPRTP2</td>
<td>DPCSAPS2</td>
<td>SAxxxx</td>
</tr>
<tr>
<td>DMRPR.DMRSXDTL (Statistics Accelerator table—detail)</td>
<td>DMRPRXSD</td>
<td>DPCTSXDT</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
### Default table name and description

<table>
<thead>
<tr>
<th>Default table name and description</th>
<th>Default table space name</th>
<th>Create table space/table member (UBBSAMP)</th>
<th>Report members (BBPARM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMRPR.DMRSXSUM (Statistics Accelerator table—summary)</td>
<td>DMRPRXSXSM</td>
<td>DPCTSXSM</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRSXSM2 (Statistics Accelerator table—summary–2)</td>
<td>DMRPRXS2</td>
<td>DPCTXS2</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRSTAT (statistics table—detail)</td>
<td>DMRPRSTATS</td>
<td>DPCSTSTDT</td>
<td>STxxxxxx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DPCSTSTSD</td>
<td></td>
</tr>
<tr>
<td>DMRPR.DMRSTATSUM (statistics table—summary)</td>
<td>DMRPRSTATSUM</td>
<td>DPCSTSTSM</td>
<td>SSxxxxxx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DPCSTSTSS</td>
<td></td>
</tr>
<tr>
<td>DMRPR.DMRSTATSUM2 (statistics table—summary–2)</td>
<td>DMRPRSTATSUM2</td>
<td>DPCSTSTSM2</td>
<td>SSxxxxxx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DPCSTSTSS2</td>
<td></td>
</tr>
<tr>
<td>DMRPR.DMRSTADT (storage address space table)</td>
<td>DMRSTADT</td>
<td>DPCTSAUUT</td>
<td>AUUTIL</td>
</tr>
<tr>
<td>DMRPR.DMRSTSDT (storage system table)</td>
<td>DMRSTSDT</td>
<td>DPCTSSDT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRSTSDT (storage system table)</td>
<td>DMRSTSDT</td>
<td>DPCTSSDT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DMRPR.DMRRAUUTL (utility access table)</td>
<td>DMRPRRAUU</td>
<td>DPCSAUUT</td>
<td>AUUTIL</td>
</tr>
</tbody>
</table>

2. If you changed the STOGROUP name (when setting up Performance Reporter defaults) also change the STOGROUP name in the DOCSxxxx sample members to the same name.

3. Customize the table definitions.

The following table customization applies to all tables, both detail and summary.

a. Determine the data that you do not want stored, such as:

- Entire tables not used at your site
  For example, the detail accounting table does not need to be created if you summarize accounting data and only load summary data.

- DDF data
  If your site does not use DDF or DRDA, you do not need to create any DDF tables or reports.
- Package accounting data
  If your site does not run with accounting trace class 7/8 active, you do not need to create any package accounting tables.

- Data collected by Performance Reporter that is not used in any Performance Reporter reports and that is not needed for special reports at your site
  For more information about the data that is used in the Performance Reporter reports, see the performance data tables section of the MainView for DB2 Performance Reporter User Guide.

- Columns in Performance Reporter tables that are meaningful only if data sharing is used at your site

- Columns in Performance Reporter tables not used for reporting at your site

- COMMENT ON statements for Performance Reporter columns

- CREATE INDEX columns that are not used in any sample reports, but do not delete the CREATE INDEX for the index ending in RIDX that uses the ROWID column

b Using the samples that start with a DPCT prefix (TABLE CREATE members), remove the following items:

- Unwanted tables
  Remove the utility statements that create the table, table space, and table index, and grant SELECT ACCESS to that table to PUBLIC.

  **Note**
  The member names must also be removed in the DPJCREAT or DPJCRELP sample JCL (see Step 4 on page 60).
  Later in this procedure, you will also remove the member names in the DPJCREAT or DPJCRELP sample JCL.

- Columns not used in any distributed report
  Each member contains a column name, DMRAUTOCUST, that marks the beginning of optional columns for that table. MainView configuration uses this column to delete the remaining column definitions if you request only the columns used in the distributed reports.

- Data sharing and global locking columns
  Each member contains a column name, DMRACSHARE, that marks the beginning of data sharing and global locking columns for that table. MainView configuration uses this column to delete the columns up to the DMRAUTOCUST column definition if you request to exclude data sharing columns.
■ Long name columns
Each member contains a column name, DMRAUTOLONG, that marks the beginning of long name columns for those columns that also have short name equivalents in that table. If you choose to exclude long name columns, MainView configuration deletes the columns following the DMRAUTOLONG column.

■ Unwanted columns
Remove the control statement that creates the column name. Do not delete the ROWID columns.

**Note**
If you remove a column name, you must also remove the corresponding COMMENT ON statement.

This table customization applies to all tables, both detail and summary.

**Note**
New column names are not supported. While it is possible to remove existing columns, it is not possible to add new ones.

■ COMMENT ON statements
Remove any or all COMMENT ON statements. MainView configuration can optionally remove all COMMENT ON statements for you.

■ Unused CREATE INDEX columns
Each member has a CREATE INDEX statement with index column names. Index column names after DATETIME are not used in any sample Performance Reporter reports and may be removed if not used by any special reports at your site. Any index column names preceding and including DATETIME must be kept to avoid processing of duplicate keys in Performance Reporter. MainView configuration can optionally remove unused CREATE INDEX statement column names for you.

**Note**
If you want to create only the summary statistics tables that are new for the latest version of MainView for DB2, edit the DPJCREAT or DPJCRELP job (see Step 4 on page 60) and remove references to all of the other tables. You must then run the DPJALTER job to update the other tables.


c Examine the space allocations performed by each DPCSxxxx sample for compatibility with the volumes you plan to use.

d COMPRESS YES is specified. Review for applicability in your environment.
e To create segmented table spaces instead of simple table spaces, uncomment the line that contains the SEGSIZE clause and replace the 0 with a valid segment size value.

4 Execute the CREATE statements that you generated in Step 3 on page 57.

Edit member DPJCREAT (IBM LOAD or NGT Load method) or DPJCRELP (BMC LOADPLUS method) and run it on the same DB2 system where the objects are to be created:

DPJCREAT/DPJCRELP

a two-step allocation job

The first step allocates a spin file that is required by the DPRSMF job, which extracts DB2 SMF records and loads the data into the Performance Reporter tables. If you do not use MainView configuration to install MainView for DB2, you will need to create the spin file by using the JCL in the BBSAMP member DPRSPIN.

The second step defines the storage group, database, table spaces, tables, and indexes that are used to store the performance data. DPJCREAT/DPJCRELP also grants SELECT authority to PUBLIC.

a Add your job statement.

b Change the HIDP parameter to the high-level qualifier of your BMC Software product libraries.

c Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.

d Specify the UNIT and VOL parameters. These parameters are used to allocate a small permanent data set used by the SMF extractor.

e Submit the job.

---

**Note**

You cannot migrate Performance Reporter version 11 data into newly created version 12 tables. If you want to use existing Performance Reporter version 11 tables, see “To update existing Performance Reporter tables to a newer version” on page 60

---

**To update existing Performance Reporter tables to a newer version**

1 Verify that the maintenance for the previous version of Performance Reporter is up-to-date.
That is, if you want to update version 11 tables to version 12 tables, ensure that the maintenance for Performance Reporter version 11 is up-to-date.

2 Run the DPJALTER job to change the TABLEVERSION, and any other structure changes that might have been updated due to maintenance.

You are provided with a populated set of Performance Reporter tables that you can maintain with version 12 of DPRDSMF.

**Binding the required plans**

Complete both of the following procedures to bind the plan that processes all performance data and the plan that produces reports:

- “To bind the processing plan” on page 61
- “To bind the reporting plan” on page 61

**To bind the processing plan**

1 Use the DPJBIND job to edit member DPJBIND in BBDBRM.
   a Add your job statement.
   b Update the symbolics as necessary.
   c Submit the job.

   **Note**
   This job must be rerun when maintenance is applied that changes the DBRMs DPSPURGD or DPSQLDAD. Any such maintenance has a HOLD FOR ACTION code requesting that the bind job be run.

**To bind the reporting plan**

1 Edit member JXRPBIND in BBSAMP.

JXRPBIND binds the report program and grants execute authority for the reporting plan to public.
   a Add your job statement.
   b Update the symbolics as necessary.
c Update the name of the DB2 system by using the SYSTEM parameter in the DSN command.

d Verify the plan name for program DSNTIAD in the RUN statement.

e Submit the job for DBRM JXRDSQL.

---

Note

This job must be rerun when maintenance is applied that changes DBRMs, DPSPURGD, or DPSQLDAD. Any such maintenance has a +HOLD...REASON(ACTION)... code indicating that after updating, the bind job must be run.

---

**Tailoring the JCL**

Complete the following procedures to tailor Performance Reporter.

- “To tailor extract/summarization JCL” on page 63
- “To tailor summarization JCL” on page 64
- “To tailor report JCL” on page 65
- “To tailor MainView for DB2 Data Collector batch report JCL” on page 66
- “To tailor MainView for DB2 Data Collector archive Performance Reporter table load JCL” on page 66
To tailor extract/summarization JCL

Edit one of the following members in UBBSAMP and tailor it for your periodic production:

- DPRSMF (IBM LOAD utility)
  This method loads the DB2 tables by using the DB2 Load Utility, DSNUTILB.

- DPRSMFNL (NGT Load utility)
  This method loads the DB2 tables by using NGT Load utility, NGTUTIL.

- DPRSMFLP (BMC LOADPLUS utility)
  This method loads the DB2 tables by using the BMC Software LOADPLUS utility, AMUUMAIN.

Note

BMC NGT Load is the preferred BMC table load utility. Future releases of MainView for DB2 will not support BMC LOADPLUS.

If your installation uses a different utility, you must modify your JCL. The utility must be able to interpret LOAD control statements in the same format that DSNUTILB uses.

DPRSMF, DPRSMFLP, and DPRSMFNL are runtime jobs that extract accounting and statistics records from SMF, reformat them, and load them into DB2. (For more information, see the MainView for DB2 Performance Reporter User Guide.)

Accounting records can be loaded in summary tables, detail tables, or both.

1. Add your job statement to the member.

2. Change the HIDP parameter to the high-level qualifier of your BMC product libraries.

   For the NGT Load utility, change the HINL parameter to the high-level qualifier of your NGT Load product library.

   For the LOADPLUS Load utility, change the HILP parameter to the high-level qualifier of your LOADPLUS Load product library.

3. Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.

4. Specify the data set name of the unloaded SMF data set for the SMF parameter.

5. Specify the UNIT name to allocate temporary work space.

6. Specify the target DB2 system for the SYSTEM parameter.
7 Specify the ID of a DB2 Load Utility for the UID parameter.

8 Change the value of the SSID parameter to the target DB2 subsystem ID in the first input control statement for Step 3 on page 63.

9 If you changed default names in the Performance Reporter tables, modify the table name.

10 If you changed the default table space and database names (when setting up Performance Reporter defaults or creating new tables), change those names in the REPAIR step (and the RESTORE step for the BMC LOADPLUS utility).

To tailor summarization JCL

Depending on the method you are using, edit one of the following members in UBBSAMP and tailor it for your periodic production:

- DPRSUM (IBM LOAD utility)
  This method loads the DB2 tables by using the DB2 Load Utility, DSNUTILB.

- DPRSUMNL (NGT Load utility)
  This method loads the DB2 tables by using the NGT Load utility, NGTUTIL.

- DPRSUMLP (BMC LOADPLUS utility)
  This method loads the DB2 tables by using the BMC Software LOADPLUS utility, AMUUMAIN.

**Note**

BMC NGT Load is the preferred BMC table load utility. Future releases of MainView for DB2 will not support BMC LOADPLUS.

If your installation uses a different utility, you must modify your JCL. The utility must be able to interpret LOAD control statements in the same format that DSNUTILB uses.

DPRSUM, DPRSUMLP, and DPRSUMNL summarize accounting data and purge outdated data from the performance data tables. (For more information, see the MainView for DB2 Performance Reporter User Guide.) Accounting records can be loaded in summary tables, detail tables, or both.

1 Add your job statement to the member.

2 Change the HIDP parameter to the high-level qualifier of your BMC product libraries.

For the NGT Load utility, change the HINL parameter to the high-level qualifier of your NGT Load product library.
For the BMC LOADPLUS utility, change the HILP parameter to the high-level qualifier of your BMC LOADPLUS product library.

3 Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.

4 Specify the UNIT name to allocate temporary work space.

5 Specify the target DB2 system for the SYSTEM parameter.

6 Specify the ID of a DB2 load utility for the UID parameter.

7 Examine and change the control statements as necessary to implement your data storage strategy.

8 If you changed default names in the Performance Reporter tables, modify the table name.

To tailor report JCL

Edit member DPRREPT in UBBSAMP and tailor it for your periodic production. DPRREPT runs the reporting jobs, for more information, see the MainView for DB2 Performance Reporter User Guide.

1 Add your job statement to the member.

2 Change the HIDP parameter to the high-level qualifier of your BMC product libraries.

3 Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.

4 Specify the UNIT name to allocate temporary work space.

5 Adjust the list of reports as needed for your site. The default generates all the Performance Reporter predefined reports.

6 Specify the target DB2 system for the SYSTEM parameter.

7 If you changed default names in the Performance Reporter tables, modify the table name.

8 Delete unwanted reports.
To tailor MainView for DB2 Data Collector batch report JCL

This procedure is optional. If you do not plan to use the MainView for DB2 Data Collector batch reports, you can skip this procedure.

Edit member DPRDOMRP in UBBSAMP and tailor it for your environment. This job creates MainView for DB2 Data Collector batch reports. It is a copy of the #DOMRPRT JCL that is provided with MainView for DB2 Data Collector.

1. Add your job statement to the member.

2. Change the ?TRACEDSN? text to specify the input NGL archive data set that is used to produce the MainView for DB2 Data Collector batch reports.

3. Insert the MainView for DB2 Data Collector batch report control cards following the SYSIN DD * JCL statement to produce your report. The comment section following the job stream lists the control cards that can be used.

To tailor MainView for DB2 Data Collector archive Performance Reporter table load JCL

This procedure is optional. If you do not plan to use the MainView for DB2 Data Collector archive data set as input to the SMF Performance Reporter table load process, you can skip this procedure.

This job creates a MainView for DB2 Data Collector archive data set, and then uses it as input to the SMF Performance Reporter table load process.

1. In UBBSAMP, edit one of the following members to tailor it for your environment and add your job statement:
   - DPRARC (IBM LOAD utility)
   - DPRARCNL (NGT Load utility)
   - DPRARCLP (BMC LOADPLUS utility)

Verifying your batch reports

After the following jobs are tailored, you can submit and run them as a verification job stream:

- DPRSMF, DPRSMFNL, or DPRSMFLP
- DPRSUM, DPRSUMNL, or DPRSUMLP
- DPRREPT

Running a verification job stream produces three detail tables, one summary table, and a set of all distributed reports. The reports produced from the detail accounting
data (reports ACxxxx) are essentially the same as those from the summary accounting data (reports SAxxxx).
Implementing product security

This chapter describes how to authorize access to MainView for DB2 services.

Authorizing security

MainView product security is enabled through the z/OS system authorization facility (SAF) interface. SAF passes security requests to external security managers (ESMs). SAF security supports CA-ACF2, CA-TOP SECRET, or RACF.

Entity names define product resources that are secured by an ESM through the SAF interface. The MainView Security Reference Manual lists SAF entity names for MainView for DB2 full-screen services and actions in the section on full-screen security mode. Shared resources and are described in the section about resources used by multiple products. This section includes security for BBI-SS PAS resources like the journal, and control of DB2 commands, traces, and the display of SQL text. Look for all entries that list DMR as an affected product. There is also a section specifically for MainView for DB2 that describes how to control DB2 commands by command name.

The MainView Security Guide describes how to use Plex Manager security views to manage security parameter and resource class property members in the BBSECURE data set. The MainView Security Reference Manual lists the MainView for DB2 resources controlling access to windows mode table data and actions. Another section lists the MainView for DB2 views that access that table data.

Security for monitor and trace services

Security access classes for monitor services, and trace services are defined in service tables that you can modify.

For more information, see the ACCESS keyword in “Service table definition” on page 48.
The security level for each service is shown in the service selection applications that list trace displays and data collection monitors. Users are authorized to use the services through the PMACC resource. See the section about resources used by multiple products in the *MainView Security Reference Manual*. 

### Service selection lists by user group

You can set up security service codes for the monitor administration facility to display only the services for which the user has authority.

BBSAMP member IMFSTD00 is an example of how to set up the service security codes by DB2 functional area, such as user activity or buffer pools. Each service is assigned a security code according to its area. USERID members can then be created either for groups (such as DBAs or system programmers) or for individuals to access only specific services by listing one or more security codes. If the corresponding security code is not defined in the user’s authorization member, the user does not see those services on the service selection displays; however, they are displayed on the EXPAND selection bar.

The SERVLIST keyword in BBPARM member BBIISP00 determines whether this feature is activated. The value for SERVLIST can be ALL or RESTRICT. ALL is the default; users see all services on the list displays. RESTRICT specifies only those services for which a user is authorized.

### Command and function authorization

Users must be authorized to issue commands or use applications against a target DB2 subsystem.

The following list is a summary of basic authorization resources for MainView for DB2. Most of these resources are also used by MainView for CICS and MainView for IMS. For more information, see the full-screen mode security section of the *MainView Security Reference Manual*.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMACC</td>
<td>Service class authorization, global authorization, or request authorization (free, modify, purge, quiesce, reset, stop, or switch)</td>
</tr>
<tr>
<td>DB2CMD</td>
<td>Authority to issue DB2 commands</td>
</tr>
<tr>
<td>TRACE.x</td>
<td>Authority to start any trace (a summary trace only or a detail trace of a specified level)</td>
</tr>
<tr>
<td>DB2TRACE.GENERIC.x</td>
<td>Authority to start a detail trace for the total workload</td>
</tr>
</tbody>
</table>
### Thread display security exit

A security exit code can be coded in addition to the security provided by the DB2SQL keyword in the user ID members of the BBPARM data set.

The exit can be coded in Assembler Language to set a return code to suppress the display of thread activity detail and SQL statement text in the Detail User Status (DUSER) and Application Trace displays. BBSAMP member DZSQLU can be used as a model. A message is displayed to indicate authorization failure.

The exit is loaded during BBI-SS PAS initialization and invoked before:

- Current active thread information is displayed (DUSER and UTRAC)
- Trace summary services are displayed (LTRAC, TSTAT, and TSUMx)
- Trace thread services are displayed (STRAC and DTRAC)
- CANCEL THREAD command is processed (DUSER)

It is also invoked once at initialization and once at BBI-SS PAS termination to allow housekeeping.

### Environment

The exit must be coded and linked as reentrant (RENT). The load module must be called DZSQLU and be present in the BBLINK load library before the BBI-SS PAS is initialized. The exit is entered in Key 4 or Key 8, AMODE-31, problem state, and is ESTAE-protected by the BBI-SS PAS.
The exit can invoke another security routine, such as RACF or ACF2.

Register usage

On entry:

- R0 contains one of three values to indicate the type of entry to the exit.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
</table>
| 0     | Initialization call  
A call is made to the exit during BBI-SS PAS initialization for exit setup. Only Word 1 of the parameter list is valid. |
| 4     | Authorization check  
A call is made to the exit before each display of a thread by the DUSER or DTRAC services. |
| 8     | Termination call  
A call is made to the exit during BBI-SS PAS termination for exit cleanup. Only Word 1 of the parameter list is valid. |

- R1 contains the address of a nine-word parameter list (see Parameter list on page 73)
- R2-R12 content is unpredictable
- R13 contains the address of an 18-word save area to be used by the exit
- R14 contains the return address
- R15 contains the entry point address of the module

On exit:

- R15 contains a return code that is only checked for a type 4 call:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Honor DB2SQL keyword parameter in BBPARM member USERID for SQL text display.</td>
</tr>
<tr>
<td>4</td>
<td>Display all data.</td>
</tr>
<tr>
<td>8</td>
<td>Suppress a display of SQL text.</td>
</tr>
<tr>
<td>Other</td>
<td>Suppress a display of entire thread.</td>
</tr>
</tbody>
</table>
### Parameter list

The exit is entered with R1 addressing a nine-word parameter list:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word 1</td>
<td>The address of a fullword where the exit can store data between calls, such as the address of a control block.</td>
</tr>
<tr>
<td>Word 2</td>
<td>The address of an 8-byte field containing the name of the plan executing the SQL statement.</td>
</tr>
<tr>
<td>Word 3</td>
<td>The address of an 8-byte field containing the authorization ID of the user executing the plan.</td>
</tr>
<tr>
<td>Word 4</td>
<td>The address of a 12-byte field containing the correlation ID.</td>
</tr>
<tr>
<td>Word 5</td>
<td>The address of an 8-byte field containing the connection name.</td>
</tr>
<tr>
<td>Word 6</td>
<td>The address of an 8-byte field containing the ID of the user requesting the display.</td>
</tr>
<tr>
<td>Word 7</td>
<td>The address of a 5-byte field containing the name of the service invoked, such as DUSER or DTRAC.</td>
</tr>
<tr>
<td>Word 8</td>
<td>The address of a 4-byte field containing the target DB2 system name.</td>
</tr>
<tr>
<td>Word 9</td>
<td>The address of an 8-byte field containing the ID of the user starting the trace. This field is 0 for the DUSER and UTRAC service.</td>
</tr>
</tbody>
</table>

**Note**

The fields addressed by Word 2 to Word 9 must not be modified by the exit. When this exit is invoked for the trace summary displays, LTRAC, TSTAT, and TSUMx, Words 2 to 5 are 0.
BBSAMP data set members

To help you understand and use your BMC product easily, the BBSAMP data set contains members that you can edit for your site’s use.

These members contain macros, sample JCL, sample user exit routines, and sample statements for a variety of functions.

Table 4 on page 75 describes BBSAMP customization members for MainView for DB2.

Table 4: BBSAMP data set customization members for MainView for DB2

<table>
<thead>
<tr>
<th>BBSAMP member name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2CMDxx</td>
<td>Samples for DB2 command security</td>
</tr>
<tr>
<td>DMRSTD00</td>
<td>Sample service table definition to set up a security profile. In this example, each service is assigned a security code according to its functional area, such as user activity or buffer pool. Edit to reflect site-specific requirements. The authority granted to user IDs can then specify by security code which services a user can access.</td>
</tr>
<tr>
<td>DPxxxxx DZPRxxxxx</td>
<td>Sample members for Performance Reporter customization and report JCL</td>
</tr>
<tr>
<td>DPCTxxxx</td>
<td>Sample SQL to define table-related objects</td>
</tr>
<tr>
<td>DZTBTRAC</td>
<td>Sample utility for printing trace data in batch mode</td>
</tr>
<tr>
<td>DZJPxxxx</td>
<td>Sample report statements for trace print</td>
</tr>
<tr>
<td>DZSQLU</td>
<td>Sample thread display security exit</td>
</tr>
<tr>
<td>DZTBRLOD</td>
<td>Sample JCL to restore trace log data sets</td>
</tr>
<tr>
<td>DZTBARC</td>
<td>Sample JCL to copy a trace log data set to a flat file</td>
</tr>
<tr>
<td>JXTnnnn</td>
<td>Sample batch jobs to set up and maintain the trace directory and trace log data sets</td>
</tr>
<tr>
<td>DOMC</td>
<td>Sample CLIST that is customized and copied into SBBCLIB to allow hyperlinks to Data Collector reports</td>
</tr>
<tr>
<td>BBSAMP member name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>DMRACT</td>
<td>Sample CLIST that is customized and copied into SSBCLIB to allow hyperlinks to CATALOG MANAGER Browse displays</td>
</tr>
</tbody>
</table>
BBPARM data set members

The following table lists sample members in BBPARM that can be used to define product default parameters, initiate background processing, and generate predefined Performance Reporter accounting and statistics reports.

Table 5: BBPARM data set members for MainView for DB2

<table>
<thead>
<tr>
<th>BBPARM member name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACxxxxxx</td>
<td>Performance Reporter SQL to generate accounting reports</td>
</tr>
<tr>
<td>SAxxxxxx</td>
<td>Performance Reporter SQL to generate summary accounting reports</td>
</tr>
<tr>
<td>STxxxxxx</td>
<td>Performance Reporter SQL to generate statistics reports</td>
</tr>
<tr>
<td>SSxxxxxx</td>
<td>Performance Reporter SQL to generate summary statistics reports</td>
</tr>
<tr>
<td>BLKDMRW</td>
<td>Contains a sample set of multiple timer-driven service requests. The member name is specified with the BLK parameter in BBPARM member BBIISP00 to activate the requested services when the BBI-SS PAS starts.</td>
</tr>
<tr>
<td>BBPTWK00</td>
<td>Contains DB2 application workload definitions</td>
</tr>
<tr>
<td>BBPARM member name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>DMRBEXxx</td>
<td>Defines various parameters per DB2 target subsystem (TARGET):</td>
</tr>
<tr>
<td></td>
<td>■ All DB2 messages that are issued to the system console from that DB2 subsystem can be logged to the BBI-SS PAS Journal (LOG)</td>
</tr>
<tr>
<td></td>
<td>■ Background sampler exceptions:</td>
</tr>
<tr>
<td></td>
<td>— Exception messages can be directed to the BBI-SS PAS Journal (default), to the system console (BMSGWTO for all messages, WTO for an individual message), or to a TSO ID (BMSGTSO for all messages, MTSO for individual messages).</td>
</tr>
<tr>
<td></td>
<td>— Specific messages (MSG) can be deactivated (ACTIVE) or controlled (CYCLES).</td>
</tr>
<tr>
<td></td>
<td>— Thresholds also can be set for individual runaway messages per attach type to determine if a thread is a runaway transaction.</td>
</tr>
<tr>
<td></td>
<td>■ Application trace options</td>
</tr>
<tr>
<td></td>
<td>Trace storage (STORAGE), size (TRLIM), and duration (TRTIME) also can be specified. In addition, the size (TRSIZE) and number (TRBUF) of the detail trace buffers can be specified, and also several trace logging options.</td>
</tr>
<tr>
<td></td>
<td>■ LOCKOUT records</td>
</tr>
<tr>
<td></td>
<td>The limit on the number of records kept for the Lockout History display can be set with the LOCKOUTS parameter.</td>
</tr>
<tr>
<td></td>
<td>■ DB2 accounting classes</td>
</tr>
<tr>
<td></td>
<td>The accounting classes for data collection can be specified with the ACCTG keyword.</td>
</tr>
</tbody>
</table>
Estimating storage for Performance Reporter data

This section provides guidelines for estimating the amount of storage that is needed at your site for Performance Reporter statistics and accounting data.

The default table space allocations in BBSAMP member DPCSTOW require 200 cylinders of DASD. These allocations support a small Performance Reporter batch system that processes approximately 10,000 or more statistics records, 100,000 or more detail accounting records, and 10,000 or more summary accounting records.

If the tables are customized to delete unwanted columns, more records will fit in the same allocation. In that case, default table space allocations support 20,000 or more statistics records, 100,000 or more detail accounting records, and 10,000 or more summary accounting records.

For more accurate estimates, you must determine:

1. Your processing volumes (number of accounting and statistical records created daily)

2. A summarization strategy (see the summarization strategy considerations section in the MainView for DB2 Performance Reporter User Guide):
   - What granularity is needed (daily, weekly, monthly)?
   - What level of summarization keys are needed?
   - What is the correct retention period for the data in each table?

3. Which tables you want to maintain:
   - Do you need DDF tables?
   - Do you want to load detail accounting records?
   - How many summary tables do you want?
4 The size of the rows in the tables:

- Are you deleting unwanted columns?

Use the following guidelines to estimate storage.

## Statistics records

Use the following guidelines to estimate storage for statistics records:

- For each statistics record processed, one statistics summary row and one buffer summary row are created.

- Two statistics summary rows fit in a 4K page in the detail statistics table (DMRSTAT).

- Nine buffer detail rows fit in a 4K page in the detail buffer statistics table (DMRSBFDT).

- Sixteen DDF statistics rows fit in a 4K page.

- Nine storage address space statistics rows fit in a 4K page (DMRSTADT).

- Six system storage statistics rows fit in a 4K page (DMRSTSDT).

For example, if the default statistics interval of 30 minutes is used, 48 rows of each type are created for a full day’s processing. This processing requires 16 pages for statistics summary rows and 10 pages for buffer summary rows per day for the statistics information for each system monitored. If three DDF destinations are active during the day, 3 x 48 or 144 DDF statistics rows are created, requiring 9 pages.

## Accounting records

One accounting record fits in a 4K page in the detail accounting table (DMRACxxx). The DDF accounting records are smaller; two to five of them can fit in a 4K page in the DDF accounting table (DMRACxxx), depending on the size of the values contained in the VARCHAR fields. One to three package accounting records can fit in a 4K page in the package accounting table (DMRAPxxx), depending on the size of the values contained in the VARCHAR fields.

The volume of these records depends on the activity in the DB2 systems that are being monitored. For example, a production DB2 system with a fairly light load of
10,000 records per day requires 10,000 pages of storage per day. If 10 percent of these threads access a single DDF destination, 200 to 500 additional pages are required.

**Note**
The size of the rows can be reduced by deleting unwanted columns (see "To create new tables and migrate data to them" in “Preparing tables for Performance Reporter” on page 54).

---

### Audit records

Use the following guidelines to estimate storage for audit records:

- Seventeen audit summary records fit in a 4K page in the audit summary table (DMRAUSUM).
- Seven records fit in a page in the authorization failures table (DMRAUFAL).
- Eight records fit in a page in the authorization control table (DMRAUGRV).
- Eight records fit in a page in the DDL access table (DMRAUDDL).
- Eighteen records fit in a page in the DML access table (DMRAUDML).
- Eight records fit in a page in the DML at BIND access table (DMRAUDMB).
- Ten records fit in a page in the authorization ID change table (DMRAUCHG).
- Sixteen records fit in a page in the utility access table (DMRAUUTL).

The volume of these records depends on the activity in the DB2 systems that are being monitored.
Moving a DB2 subsystem from one LPAR to another LPAR

This section explains how MainView for DB2 can support a DB2 subsystem that is moved from one LPAR to another LPAR without recycling the BBI-SS PAS.

MainView for DB2 does not support dynamic target definition through the common MainView Target Definition dialogs. However, static target definitions can be set up to support DB2s that might sometimes run on different systems (for example, data-sharing members in a sysplex).

Target definitions

For any DB2 subsystem that might be moved from one LPAR to another LPAR, define an entry per LPAR in the BBIJNT00 member of BBPARM, with the same TARGET DB2 SSID but with a unique ALIAS. The BBIISP00 member should reference the ALIAS name in the TARGET entries.

--- Example ---

**BBIJNT00:**

TARGET=DB2P,TYPE=DB2,SUBSYS=SSA1,RELEASE=1210,ALIAS=DB2P1 (on SYSA)

TARGET=DB2P,TYPE=DB2,SUBSYS=SSB1,RELEASE=1210,ALIAS=DB2PSYSB (on SYSB)

**BBIISP00:**

TARGET=DB2P1,BLK=XXXXXXXX

TARGET=DB2PSYSB,BLK=XXXXXXXX

Runtime considerations

At PAS initialization, a service point is created for each ALIAS on each LPAR.
On those LPARs where the DB2 subsystem is not active, most of the monitors that are started with the BLK REQ entry in BBIISP00 will quiesce (and generate QUIESCE messages in the Journal). If the DB2 subsystem is later brought up on that LPAR, the monitors will be activated automatically.

In windows mode, the context is always shown as the ALIAS. In PLEXMGR, all service points will be shown as active. The STDB2 View (SSI mode) will show the status of all defined targets, including the inactive targets. The inactive targets will show Connect Fail in the Warning Msg column. Other views only show the data returned from the active DB2s.

In full-screen mode, use the active ALIAS instead of the DB2 SSID in the TARGET field. If an inactive ALIAS is entered, this message will appear: IM9301E CANNOT LOCATE DB2 SPECIFIED.
Working with DOMPLEX option sets

This section describes the DOMPLEX option sets that you use to define the Data Collector subsystems and the DB2 subsystems to be monitored.

To enter values for fields that are prefixed with a greater-than sign (>), place your cursor on the > and press Enter to "zoom" to the entry field for that value.

You can change values in a DOMPLEX option set while Data Collectors are active. However, changes do not take effect until each Data Collector is initialized. The values in the DOMPLEX option set are saved across product sessions.

To expand a section, place the cursor on the plus sign (+) next to that section name and press Enter. To collapse the section, place the cursor on the minus sign (-) and press Enter.

If you press F1 while the cursor is positioned on an input or output field on a panel, specific information about that field is displayed. To view general information or information about a panel, use the Help menu at the top of the panel.

Overview

Through DOMPLEX option sets, you can define one or more Data Collector subsystems and their associated DB2 subsystems to be monitored.

Each Data Collector in a DOMPLEX must run on a separate IBM z/OS image and can monitor all DB2 subsystems on that image.

Note

Although you can define multiple DOMPLEXes, you can define a Data Collector to only one DOMPLEX.

For each option set, you can:
- Define which subsystems to monitor
- Set product-initialization parameters
- Specify LOGSET data sets for storing output

**Note**
You can also specify default section parameter values for certain sections in the option set that allow for repeating groups.

---

## Task summary

The following table summarizes the tasks that you complete when setting up a DOMPLEX option set.

### Table 6: Task summary for setting up a DOMPLEX option set

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a DOMPLEX option set</td>
<td>Adds a new option set.</td>
<td>“Creating a DOMPLEX option set” on page 88</td>
</tr>
<tr>
<td>Specify section default parameter values</td>
<td>Specify default section parameter values for certain sections in the optionset that allow for repeating groups.</td>
<td>“Defining section defaults” on page 90</td>
</tr>
<tr>
<td>Specify DOMPLEX-level parameters</td>
<td>Sets values that apply to the entire DOMPLEX and relate to communication in a sysplex environment. For example, you can set data transfer limits (global and local) or set decimal and date formatting preferences.</td>
<td>“Specifying DOMPLEX-level parameters for option sets” on page 93</td>
</tr>
<tr>
<td>Specify a Data Collector for the option set</td>
<td>Defines the initialization parameters for the Data Collector subsystem (for example, the number of concurrent batch and online users that are allowed).</td>
<td>“Specifying a Data Collector for an option set” on page 96</td>
</tr>
<tr>
<td>Specify the DB2 subsystems to monitor</td>
<td>Specifies parameters for the DB2 subsystems to be monitored.</td>
<td>“Specifying the DB2 subsystems to monitor” on page 98</td>
</tr>
<tr>
<td>Create an output group</td>
<td>Defines the output group for the option set. <strong>Note:</strong> An output group is a collection of specifications for collecting and processing data; the data is written to the LOGSET (log file) data sets for batch or historical reporting. You can use these output groups to buffer trace records, and to allocate trace data sets to which the output groups write records.</td>
<td>“Creating an output group” on page 101</td>
</tr>
</tbody>
</table>
Considerations when setting data transfer limits

When setting DOMPLEX-level parameters you can specify both local and global limits for data transfers.

- The local transfer limit controls how much local storage a user data request can occupy from a single request for data. This limit ensures that a single user cannot use too much of the Data Collector’s private storage area for a single request.

- The global transfer limit controls how much data a Data Collector attempts to return to a remote Data Collector for a single data request from a remote user. This limit controls the demand on coupling-facility resources.

For more information, see “Specifying DOMPLEX-level parameters for option sets” on page 93.

Note
The entire request for data from all DB2 subsystems must be satisfied from within the local transfer limit buffer; consequently, the local transfer limit must always be higher than the global limit.

Because concurrent users can issue simultaneous requests, each request can potentially use up to the maximum amount of storage. If you have many concurrent users and a high local transfer limit, simultaneous requests can exceed the private virtual storage capacity of the Data Collector. Exceeding this capacity can cause the Data Collector to fail.

Typically, z/OS systems provide between 1300 MB and 1600 MB of available private storage. Therefore, a value of 1000 MB is a good working maximum for all concurrent user requests combined. Because this storage must be balanced between the number of active user requests and the size of those requests, 1000 MB can support a limit of 50 MB for 20 simultaneous requests. If you increase the limit to accommodate a large user request, you must decrease the number of users. For example, increasing the limit to 100 MB results in only 10 simultaneous user requests that obtain the maximum amount of data.

If you have many concurrent users, you should reduce the size of the user requests. Either reduce the actual size of the request, or request the data from a batch report request. Batch report requests that do not use the Data Collector as their source are not subject to these limitations.

Before changing the default limits, consider the following information:

- The combination of local transfer limits for all users and global transfer limits for all DB2s should never exceed 1000 MB.
The higher the local transfer limits, the lower the number of users that use those limits.

The local transfer limit should always be higher than the global transfer limit.

## DOMPLEX option sets

This section explains how to create a DOMPLEX option set and set it up according to your site’s needs.

### Creating a DOMPLEX option set

Use the following procedure to add a new DOMPLEX option set.

**Note**

If you press F1 while the cursor is positioned on an input or output field on a panel, specific information about that field is displayed. To view general information or information about a panel, use the Help menu at the top of the panel.

To create a DOMPLEX option set

1. On the product or solution main menu, select the **Administration** option.
2. On the Administration Menu, select Option 2 (DOMPLEX Option Sets).

The DOMPLEX Option Sets panel lists your current DOMPLEX option sets in alphabetical order. Figure 1 on page 88 provides an example. If you have more option sets than can fit on the panel, use F7 and F8 to browse through the list.

**Figure 1: DOMPLEX Option Sets panel (LGCP1001)**

<table>
<thead>
<tr>
<th>Solution/Product</th>
<th>Version Changed</th>
<th>More: +</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFDPLEX</td>
<td>2010/11/16 16:17:02 JKS</td>
<td></td>
</tr>
<tr>
<td>AFDQANGL</td>
<td>2010/11/16 19:04:47 BMCADM</td>
<td></td>
</tr>
<tr>
<td>BLDIPEX</td>
<td>2010/11/16 16:27:41 JKS</td>
<td></td>
</tr>
<tr>
<td>DACPLEX</td>
<td>2011/02/19 12:40:45 RDADAC</td>
<td></td>
</tr>
<tr>
<td>DCPLEX</td>
<td>2010/11/16 16:27:42 JKS</td>
<td></td>
</tr>
<tr>
<td>DOMPLEX</td>
<td>2010/11/16 16:27:42 JKS</td>
<td></td>
</tr>
<tr>
<td>DOMPXK</td>
<td>2011/01/28 14:21:15 ROHMXX</td>
<td></td>
</tr>
<tr>
<td>JKB1</td>
<td>2010/11/16 16:33:31 JKS</td>
<td></td>
</tr>
<tr>
<td>JSSPLEX</td>
<td>2010/11/16 16:33:32 JKS</td>
<td></td>
</tr>
<tr>
<td>KGC0630</td>
<td>2010/11/16 16:33:33 JKS</td>
<td></td>
</tr>
<tr>
<td>LCC1PLEX</td>
<td>2010/11/16 16:33:34 JKS</td>
<td></td>
</tr>
<tr>
<td>MDB65</td>
<td>2010/11/16 16:33:33 JKS</td>
<td></td>
</tr>
<tr>
<td>MNPLEX1</td>
<td>2010/11/16 16:33:33 JKS</td>
<td></td>
</tr>
<tr>
<td>PATPLEX</td>
<td>2010/11/16 16:33:35 JKS</td>
<td></td>
</tr>
<tr>
<td>PSH2</td>
<td>2010/11/16 16:33:35 JKS</td>
<td></td>
</tr>
</tbody>
</table>
3 Create a totally new option set or copy an existing option set:

- To create a totally new option set:

  1. In the field next to the product name (BMC System and SQL Performance products Vxx.x.x in Figure 1 on page 88), type I and press Enter.

  2. As the Security data set DSN and the Archive directory DSN fields are mandatory, the Filter:Invalid view is displayed. Enter valid values for the Security data set DSN and the Archive directory DSN.

  3. Press Enter

- To copy an existing option set. Type C next to the option set name and press Enter.

A panel similar to Figure 2 on page 89 is displayed.

Figure 2: Panel for a new option set (LGCP1001)

<table>
<thead>
<tr>
<th>Command</th>
<th>noname - no description</th>
<th>Scroll =&gt;</th>
<th>CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter: Off</td>
<td>More:</td>
<td>- DOMPLEX Parameters</td>
<td>Parameters that apply to entire DOMPLEX</td>
</tr>
<tr>
<td>+ Data Collector List (0)</td>
<td>Data Collector(DBC) subsystems in DOMPLEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ DB2 Monitor List (0)</td>
<td>DB2 Sub-systems to be monitored</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ OutGp DCID DspSize (0)</td>
<td>Output Groups - valid range: 001-256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+/− expandable section (enter ? for action menu), &gt; zoomable field</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 Complete the sections according to the steps detailed in the following topics, or skip this step. You can change the default values at the end of the procedure, after you have saved the DOMPLEX option set:

- “Specifying DOMPLEX-level parameters for option sets” on page 93

- “Specifying a Data Collector for an option set” on page 96

- “Specifying the DB2 subsystems to monitor” on page 98

- “Creating an output group” on page 101

5 Press F3 to exit.

A validation process runs to validate all the values in your options. If there are validation errors, the cursor is positioned on the Filter: Invalid View screen.

6 In the Create New Option Set panel, enter the following values:
### Field option sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>The name of the option set (up to 8 characters)</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the option set</td>
</tr>
</tbody>
</table>

7 Press **Enter** to save your entries.

The new option set uses default option values until you modify them. See Step 4 on page 89

---

**Note**

You must recycle the Data Collector, using the DOMSTOP and DOMSTART, or DOMREFRESH commands, to make your changes take effect. For more information regarding DOMSTOP, DOMREFRESH, and DOMSTART commands, see *System and SQL Performance for DB2 Administrator Guide*.

---

**Defining section defaults**

You can create section default values for each DOMPLEX option set or APPTUNE filter set (APPTUNE only).

The values that you select for section defaults is used whenever a new instance of the section is inserted. If you change a value in a section default, any instance that matched that value is eligible to be updated to the new value.

For example, in the DOMPLEX option set, if you have defined the default value of **deferred write time** as 60 seconds, and then change it to 80 seconds. You will be asked if you want to update the value of all instances with the current value of 60 to 80.

**Tip**

BMC recommends using generic names for fields such as DB2 Subsystem ID or Data Collector ID so that it is obvious that field needs to be updated when a new instance is inserted.

---

**To define section defaults**

1. On the product or solution main menu, select the **Administration** option.

2. On the Administration Menu, select Option 2 (DOMPLEX Option Sets) or Option 4 (APPTUNE filters).
3 Type E next to the option set for which you want to specify section defaults and press Enter.

If there is no option set, you must create one. See “Creating a DOMPLEX option set” on page 88.

For the DOMPLEX option set, a panel similar to Figure 2 on page 89 is displayed.

**Figure 3: Panel for a new option set (LGCP1001)**

<table>
<thead>
<tr>
<th>OptionsetName - Description</th>
<th>Command</th>
<th>Scroll</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter: Off</td>
<td>More:</td>
<td></td>
</tr>
<tr>
<td>+ DOMPLEX Parameters</td>
<td>Parameters that apply to entire DOMPLEX</td>
<td></td>
</tr>
<tr>
<td>+ Data Collector List (1)</td>
<td>Data Collector(DBC) subsystems in DOMPLEX</td>
<td></td>
</tr>
<tr>
<td>+ DB2 Monitor List (12)</td>
<td>DB2 Sub-systems to be monitored</td>
<td></td>
</tr>
<tr>
<td>+ Output Group DCID DspSize (6)</td>
<td>Output Groups - valid range: 001-256</td>
<td></td>
</tr>
<tr>
<td>+/-% expandable section (enter ? for action menu), &gt; zoomable field</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

■ You can create section defaults for any section that is followed by a number in parentheses. In this example, three sections are followed by a count of instances in parentheses. In this example, there is one Data Collector defined, 12 DB2 subsystems, and 6 output groups.

4 Type E next to the relevant section.

For the DOMPLEX option set, you can create default values for specific parameters of the following sections:

■ Data Collector List
■ DB2 Monitor List
■ Output Groups

For the APPTUNE Filter option set, you can create default values on the filter row.

In the example, typing E next to DB2 Monitor List shows this:

**DB2 Monitor List - Section Defaults**

<table>
<thead>
<tr>
<th>Command</th>
<th>Scroll</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter: Off</td>
<td>HALF</td>
</tr>
<tr>
<td>DB2 Subsystem ID . . . . . . . . . . . . DBAC</td>
<td></td>
</tr>
<tr>
<td>Is this a production DB2? . . . . . . N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Monitor with MAINVIEW for DB2 - DC .. N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Monitor with Pool Advisor/System Perf. N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Monitor with APPTUNE . . . . . . . . . N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Dynamic Explain plan name. . . . . . . DAA111D1</td>
<td></td>
</tr>
<tr>
<td>&gt; DB2 IFDIDs to be traced automatically</td>
<td></td>
</tr>
<tr>
<td>&gt; DB2 IFDIDs to be discarded</td>
<td></td>
</tr>
<tr>
<td>&gt; BMC IFDIDs to be discarded</td>
<td></td>
</tr>
<tr>
<td>Class 2-In-DB2 elapsed timing info . Y (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Class 3-DB2 suspend timing info . . Y (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Class 5-Time spent doing IFI requests N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Class 7-DB2 events (packages, DBRMs). N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Class 8-Wait time for packages . . . N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Class 10-Optional package detail data. N (Y=Yes,N=No)</td>
<td></td>
</tr>
<tr>
<td>Collect dynamic SQL stats in stmt cache Y (Y=Yes,N=No)</td>
<td></td>
</tr>
</tbody>
</table>
Collect static SQL stats in stmt cache Y (Y=Yes,N=No)
+ SQL Performance/APPTUNE options
***************************************** End of List **************
+/- expandable section (enter ? for action menu), > zoomable field

For example, if all of the Class fields were changed to N and the previous value of Y matched the existing instances of the 12 defined DB2 subsystems, after pressing F3 to save the changes, the following panel is displayed:

For example, if all of the Class fields were changed to N and the previous value of Y matched the existing instances of the 12 defined DB2 subsystems, after pressing F3 to save the changes, the following panel is displayed:

![Panel Example]

To change the value from Y to N for all 12 instances, type / on the first action line containing the prompt: **Enter "/" to select all rows or select individual rows in the list.**

To change the value from Y to N for only DB2A and DB2B, type / on the action lines next to those DB2 subsystems.

**Navigation in the new option set panel**

Use the following navigation aids to enable you to create the DOMPLEX option set.

To enter values for fields that are prefixed with a greater-than sign (>), place your cursor on the > and press Enter to "zoom" to the entry field for that value.

You can type ? on the COMMAND line to view what commands are valid.

You can change values in a DOMPLEX option set while Data Collectors are active. However, changes do not take effect until each Data Collector is initialized. The values in the DOMPLEX option set are saved across product sessions.

To expand a section, place the cursor on the plus sign (+) next to that section name and press Enter. To collapse the section, place the cursor on the minus sign (-) and press Enter.
If you press F1 while the cursor is positioned on an input or output field on a panel, specific information about that field is displayed. To view general information or information about a panel, use the Help menu at the top of the panel.

When invoking the option set dialog from the install dialog, only the required options are shown. For example, the filter is set to Filter:Required. If a section does not contain any required fields, expanding it may change the plus sign (+) to a minus sign (-) but not show any additional data. To see all options, type FILTOFF on the Command line once you are editing the optionset. You can also put your cursor on Filter in the taskbar and press Enter to change the Filter settings at any time.

While editing the optionset, you may receive some validation error messages on fields that contain invalid data or that are required to have a value. Validation Errors will cause the filter setting to change to Filter:Invalid and only fields that are getting validation errors will be displayed. Press F1 on the field containing invalid data to get more information about the validation error. As the values are corrected, the fields will disappear from the Filter:Invalid display. When all validation errors have been corrected, the filter will revert to what you had before, for example, Filter:Required or Filter:Off.

You can stop an editing session before you are finished and save your changes, even if the option set still has validation errors. To do so, press F3 and then press Enter on the Confirm Option Set End with Errors panel.

**Specifying DOMPLEX-level parameters for option sets**

Use the following procedure to set values that control DOMPLEX-related communication in your sysplex environment.

**To specify DOMPLEX-level parameters**

1. On the option set’s panel (see panel for a new option set (LGCP1001) in “Creating a DOMPLEX option set” on page 88), expand DOMPLEX Parameters.

   **Note**

   To expand a section, place the cursor on the plus sign (+) next to that section name and press Enter. To collapse the section, place the cursor on the minus sign (-) and press Enter.

2. Enter values for the displayed fields, as follows:
### Table 7: DOMPLEX Parameters fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sysplex communications enabled</td>
<td>Specify whether the Data Collector on the current system will connect to an XCF group in the coupling facility, and subsequently establish communication with all Data Collectors in the DOMPLEX. Valid values are Y (Yes) and N (No). The default is Y.</td>
</tr>
</tbody>
</table>
| Global data transfer limit                 | Specify the maximum size (in megabytes) of a request that can be transferred to a remote system. Requests that exceed the limit are terminated. Valid values are any number in the range 1 through 999. The default is 100.  
**Note:** As you raise the global data transfer limit, more private storage in the Data Collector is used per user. This situation can potentially cause problems with paging and throughput, depending on the number of concurrent users. BMC recommends setting this value to 200 or less. |
| Local data transfer limit                  | Specify the maximum size (in megabytes) of a request that can be transferred to a user on the local system. Requests that exceed the limit are terminated. Valid values are any number in the range 1 through 999. The default is 250.  |
| Collect IFCID 3 in accounting trace        |Specify whether to collect IFCID 3 in accounting trace. Valid values are Y (Yes) and N (No).                                                                                                                 |
| **Note:** Only valid for MainView for DB2 |                                                                                                                                                                                                           |
| Security via DB2 authorization tables      | Specify whether security through the DB2 authorization tables is enabled. Valid values are Y (Yes) and N (No).                                                                                                 |
| Authorization for DB2 commands             | Specify whether any users of the product(s) are allowed to issue commands to DB2 from the product(s). Valid values:  
- Y (Yes): Users who also have DB2 command authority in their User Profiles are allowed to issue commands to DB2 from the product(s). (Default)  
- N (No): No users are allowed to issue commands to DB2 from the product(s), regardless of the setting in their User Profiles. |
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorization for z/OS commands</td>
<td>Specifies whether any users of the product(s) are allowed to issue commands to z/OS from the product(s). Valid values:</td>
</tr>
<tr>
<td></td>
<td>■ Y (Yes): Users who also have z/OS command authority in their User Profiles are allowed to issue commands to z/OS from the product(s). This is the default.</td>
</tr>
<tr>
<td></td>
<td>■ N (No): No users are allowed to issue commands to z/OS from the product(s), regardless of the setting in their User Profiles.</td>
</tr>
<tr>
<td>Translate all panels to upper case</td>
<td>Specify whether System and SQL Performance panels and reports should use uppercase letters only:</td>
</tr>
<tr>
<td></td>
<td>■ Y (Yes) uses uppercase letters only.</td>
</tr>
<tr>
<td></td>
<td>■ N (No, the default) uses uppercase and lowercase letters.</td>
</tr>
<tr>
<td>Site Panel Language identifier</td>
<td>Specify the language for System and SQL Performance product panels. Valid values are E for English and J for Japanese. The value in this field is the default for all users who do not set a preference in User Options or User Profile.</td>
</tr>
<tr>
<td>Date formatting style option</td>
<td>Specify the style for dates on panels:</td>
</tr>
<tr>
<td></td>
<td>■ U displays dates in United States format (mm/dd/yy or mm/dd/yyyy).</td>
</tr>
<tr>
<td></td>
<td>■ E displays dates in European format (dd/mm/yy or dd/mm/yyyy).</td>
</tr>
<tr>
<td></td>
<td>■ I displays dates in ISO format (yy/mm/dd or yyyy/mm/dd).</td>
</tr>
<tr>
<td></td>
<td>If you do not specify a value, the default is the value from Global Options. A User Options value overrides any value that you set here.</td>
</tr>
<tr>
<td>Decimal formatting style option</td>
<td>Specify the symbol that precedes the fractional portion of a number with decimal places. Valid values are U (for United States format, a period) and E (for European format, a comma). If you do not specify a value, the default is the value from Global Options. A User Options value overrides any value that you set here.</td>
</tr>
<tr>
<td>IDCAMS module name</td>
<td>Specify the name of the IDCAMS module. The IBM default name is IDCAMS. If the default at your site is different, you must specify that name during installation.</td>
</tr>
<tr>
<td>Work file DASD unit name</td>
<td>Specify the unit name to be used for allocating temporary DASD work files. The IBM default unit name is SYSDA. If the default at your site is different, you must specify that name during installation.</td>
</tr>
<tr>
<td>Maximum concurrent APPTUNE unloads</td>
<td>Control the number the number of APPTUNE unload jobs (1 or 2) that can run concurrently. The default is 0 (there is no control).</td>
</tr>
<tr>
<td>Security data set DSN</td>
<td>Specify the name of the VSAM data set containing the User Profile security values.</td>
</tr>
</tbody>
</table>
**Specifying a Data Collector for an option set**

Use the following procedure to specify the Data Collectors that will be sharing data in a sysplex environment. In a non-sysplex environment, you should define only one Data Collector to a DOMPLEX.

Data Collector names consist of up to four alphanumeric characters and must begin with a letter. A Data Collector name cannot match any other subsystem name on the same z/OS system, or any other Data Collector name in the DOMPLEX.

**To specify the Data Collector for an option set**

1. On the option set’s panel (see Panel for a new option set (LGCP1001) in “Creating a DOMPLEX option set” on page 88), expand **Data Collector List**.

2. Expand the parameter section for the Data Collector that you want to edit.

   If no data collectors are listed in the section then you must add one or more new data collectors. Perform one of the following steps:

   - Type **I** on the + sign
   - Type **R** to replicate an existing one and then type over the data collector name with your new name
   - Type **E** to define a new instance using the default values

3. In the Data Collector section, enter the following values:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archive Directory DSN</td>
<td>Specify the COPYDIR archive data.</td>
</tr>
</tbody>
</table>

- For more information about data transfer limits, see “Considerations when setting data transfer limits” on page 87.
- This setting does not apply to SQL Explorer reports, panels, or Explain reports. It does apply to panels that SQL Explorer shares with other System and SQL Performance products.
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Collector SSID</td>
<td>Specify the SSID of the Data Collector subsystem in DOMPLEX. &lt;br&gt; Select the plus sign (+) next to the Data Collector SSID to view and edit the parameter for the Data Collector.</td>
</tr>
<tr>
<td>Max number of concurrent online users</td>
<td>Specify the maximum number of online users that are allowed to use this Data Collector at the same time. &lt;br&gt; <em>You cannot leave this field blank.</em> Valid values are any number in the range 1 through 999. The default is 100.</td>
</tr>
<tr>
<td>Max number of concurrent batch users</td>
<td>Specify the maximum number of batch users that are allowed to use this Data Collector at the same time. &lt;br&gt; <em>You cannot leave this field blank.</em> Valid values are any number in the range 0 through 999. The default is 1.  &lt;br&gt; <strong>Note:</strong> This field applies only to MainView for DB2 - Data Collector, APPTUNE, and SQL Performance.</td>
</tr>
<tr>
<td>WTO messages route code</td>
<td>Specify the z/OS WTO routing code (which determines the z/OS console to which all WTO messages are sent). &lt;br&gt; <em>You cannot leave this field blank.</em> Valid values are any number in the range 0 through 16. The default is 0. The System and SQL Performance products use the system defaults. For definitions of the other routing codes, refer to the IBM documentation.</td>
</tr>
<tr>
<td>WTO upon user connection</td>
<td>Specify whether a WTO message (BMC24100) is issued each time a user connects to this Data Collector. &lt;br&gt; Valid values are Y (issues the message) and N (omits the message). The default is Y.</td>
</tr>
<tr>
<td>WTO upon user connect termination</td>
<td>Specify whether a WTO message (BMC24101) is issued each time a user terminates a connection to this Data Collector. &lt;br&gt; Valid values are Y (issues the message) and N (omits the message). The default is Y.</td>
</tr>
<tr>
<td>Advisor variable data DSN</td>
<td>Specify the name of the Data Collector’s advisor variable repository. &lt;br&gt; <strong>Note:</strong> This field applies only to Pool Advisor or solutions that include Pool Advisor.</td>
</tr>
<tr>
<td>Pool Advisor history DSN</td>
<td>Specify the name of the Pool Advisor history repository. &lt;br&gt; <strong>Note:</strong> This field applies only to Pool Advisor or solutions that include Pool Advisor.</td>
</tr>
</tbody>
</table>
Specifying the DB2 subsystems to monitor

Use the following procedure to define the DB2 subsystems that can be monitored by the Data Collectors in this DOMPLEX.

To specify the DB2 subsystems to monitor

1. On the option set’s panel, (see “Creating a DOMPLEX option set” on page 88), expand DB2 Monitor List.

   If no DB2 monitors are listed in the section then you must add one or more new DB2 monitors. Perform one of the following steps:

   - Type I on the -sign
   - Type R to replicate an existing monitor and then type over the DB2 monitor with your new name
   - Type E to define a new instance using the default values.

2. In the DB2 Monitor List section, enter the following values:

   Table 9: DB2 Monitor List fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2 SSID</td>
<td>Specify the subsystem ID of the DB2 that is being defined.</td>
</tr>
<tr>
<td>Is this a production DB2?</td>
<td>Specify whether this DB2 is a production DB2.</td>
</tr>
<tr>
<td>Monitor with MainView for DB2–DC</td>
<td>Specify whether this DB2 is monitored by MainView for DB2–Data Collector.</td>
</tr>
<tr>
<td>Monitor with Pool Advisor/System Perf</td>
<td>Specify whether this DB2 subsystem is monitored automatically by Pool Advisor when the associated Data Collector is started.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Monitor with APPTUNE</td>
<td>Specify whether to collect data from this DB2 for APPTUNE reporting. <strong>Note:</strong> This field applies only to APPTUNE and SQL Performance for DB2.</td>
</tr>
<tr>
<td>Dynamic Explain plan name</td>
<td>Specify the name of the plan that DB2 uses for Dynamic Explain. This name must match the plan name that is bound on this DB2 during installation. The default plan name in the installation JCL is DAA(vrm)D1, where (vrm) is the current release level of the product. If you used the default at installation, you must specify DAA(vrm)D1 here. If you used a different name at installation, you must specify that name here.</td>
</tr>
<tr>
<td>DB2 IFCIDs to be traced automatically a</td>
<td>Use this parameter to select specific DB2 IFCIDs that you want to trace automatically. When you select this option, a new panel opens so that you can specify the IFCIDs.</td>
</tr>
<tr>
<td>DB2 IFCIDs to be discarded a</td>
<td>Use this parameter to prevent tracing of specific DB2 IFCIDs. When you select this option, a new panel opens so that you can specify the IFCIDs that you do not want to trace.</td>
</tr>
<tr>
<td>BMC IFCIDs to be discarded a</td>
<td>Use this parameter to prevent tracing of specific BMC IFCIDs. When you select this option, a new panel opens so that you can specify the IFCIDs that you do not want to trace.</td>
</tr>
<tr>
<td>Class 2-In-DB2 elapsed timing info a</td>
<td>Specify whether to collect Class 2-In-DB2 elapsed timing information.</td>
</tr>
<tr>
<td>Class 3-DB2 suspend timing info a</td>
<td>Specify whether to collect Class 3-DB2 suspend timing information.</td>
</tr>
<tr>
<td>Class 4-Time spent doing IFI requests a</td>
<td>Specify whether to collect Class 4-Time spent doing IFI requests.</td>
</tr>
<tr>
<td>Class 5-Time spent doing IFI requests a</td>
<td>Specify whether to collect Class 5-Time spent doing IFI requests.</td>
</tr>
<tr>
<td>Class 6-DB2 events (packages, DBRMs) a</td>
<td>Specify whether to collect Class 6-DB2 events (packages, DBRMs).</td>
</tr>
<tr>
<td>Class 7-DB2 events (packages, DBRMs) a</td>
<td>Specify whether to collect Class 7-DB2 events (packages, DBRMs).</td>
</tr>
<tr>
<td>Class 8-Wait time for packages a</td>
<td>Specify whether to collect Class 8-Wait time for packages.</td>
</tr>
<tr>
<td>Class 10-Optional package detail data a</td>
<td>Specify whether to collect Class 10-Optional package detail data.</td>
</tr>
</tbody>
</table>
## Field | Description
--- | ---
Collect dynamic SQL stats in stmt cache | Specify whether to collect dynamic SQL stats in statement cache. This activates IFCID 318 in a monitor trace for this DB2, which tracks statement performance in dynamic statement cache entries. Specifying IFCID 318 activation does not produce any additional trace data from DB2, but does activate the collection of performance statistics for statements in the Dynamic Statement Cache. This information is available in APPTUNE Dynamic Statement Cache reports. If you specify N in this field, you can later start and stop this IFCID from the APPTUNE report.
Collect static SQL stats in stmt cache | Specify whether to collect static SQL stats in statement cache. This causes IFCID 400 to be active in a monitor trace for this DB2, which activates the tracking of static statement performance in statement entries in the EDM pool.
SQL Performance/ APPTUNE options | Expand the SQL Performance/APPTUNE options section to specify the following values:
■ APPTUNE Filter Name
Specify the default APPTUNE filter name.
■ Fixed Collection Interval
Specify the interval (in minutes) at which data is written from the reduction table to the trace data sets. When you enter a value here, all intervals have that length. Specify 0 (zero) to set an individual Hourly Collection Intervals Schedule.
Note: BMC recommends using the same statistical interval for all DB2 subsystems that are monitored by the same Data Collector. This synchronizes the intervals for all monitored DB2s. Consequently, reporting data is the same for all DB2s. Valid values are any number in the range 1 through 1440.
■ Hourly Collection Intervals Schedule (0–23)
Type Y at each hour boundary upon which an interval is to begin.

a Only valid for MainView for DB2
b Valid values are Y and N.
c Specify Y to collect this information.
d Use a comma to separate values. To enter a range of values, place a hyphen between the first and last values.

3 Press `Enter` to validate the values.
Note
You must recycle the Data Collector, using the DOMSTOP and DOMSTART, or DOMREFRESH commands, to make your changes take effect.
For more information regarding DOMSTOP, DOMREFRESH, and DOMSTART commands, see System and SQL Performance for DB2 Administrator Guide.

Creating an output group

Use the following procedure to create an output group for an option set. The option set uses this output group to collect and process data, and then writes it to the LOGSET (log file) data sets for batch or historical reporting.

To create an output group

1. On the option set’s panel (see “Creating a DOMPLEX option set” on page 88), expand Output Groups.

2. On the Output Groups line, overtype I on the minus sign (-) and press Enter.
   - Type I on the - sign
   - Type R to replicate an existing Output Group and then type over the name with a new name
   - Type E to define a new instance using the default values.

The new output group is displayed at the top of the list and is by default numbered 001. However you can use any 3-digit number within the range. Each output group must have a unique number within the DOMPLEX set.

Tip
This step inserts a completely new output group. If you prefer repeating an existing output group, type R on the plus sign (+) next to that output group and press Enter.
Doing so copies the new group under the original group and uses the same group number for both. Change the number for the new group to be unique.

3. To edit the parameters for the new output group, expand its group number.

4. In the Output Groups section, complete the following fields:
Table 10: Output Groups fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OutGp</td>
<td>Specify the number of the output group. Valid values are 001 through 256.</td>
</tr>
<tr>
<td>DCID</td>
<td>Specify the subsystem ID of the Data Collector that owns the output group.</td>
</tr>
<tr>
<td>DspSize</td>
<td>The recommended size depends on the types of data assigned to this group and the load expected for all types combined. The size is specified in megabytes in the range 0 to 2000. A value of zero causes all IFCIDs assigned to this group to be immediately discarded. <strong>Note:</strong> The sum of data space for all output groups assigned to the same data collector cannot exceed 2000MB.</td>
</tr>
</tbody>
</table>

5 Expand the **Data Classes** section to specify the IFCIDs that this output group captures and stores.

Table 11: Data class parameters

<table>
<thead>
<tr>
<th>Data class</th>
<th>IFCIDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCSYSTEM</td>
<td>(BMC IFCIDs 241 and 245)</td>
</tr>
<tr>
<td><strong>Note:</strong> This information is also available from the SYSLOG, DB2 JESLOG, or DB2 IFCIDS</td>
<td></td>
</tr>
<tr>
<td>APSTACC</td>
<td>APPTUNE/SQL Performance BMC IFCIDs:</td>
</tr>
<tr>
<td><strong>Note:</strong> Do not define an output group for DCSYSTEM unless recommended by BMC Customer Support.</td>
<td></td>
</tr>
<tr>
<td>APSTACC</td>
<td>■ 006—Interval Statistics</td>
</tr>
<tr>
<td></td>
<td>■ 307—SQL Statement Summary</td>
</tr>
<tr>
<td></td>
<td>■ 318—Filter Data</td>
</tr>
<tr>
<td>APSTACC</td>
<td>APPTUNE/SQL Performance Accounting Statement Summary BMC IFCIDs:</td>
</tr>
<tr>
<td></td>
<td>■ 305—MainView Application Summary</td>
</tr>
<tr>
<td></td>
<td>■ 306—High Use Statement Summary</td>
</tr>
<tr>
<td></td>
<td>■ 308–311—Statement Summary</td>
</tr>
<tr>
<td><strong>Data class</strong></td>
<td><strong>IFCIDs</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>
| APSTMT         | Specify Y to collect APPTUNE statement text, host variables, and exceptions data. APPTUNE/SQL Performance BMC IFCIDs:  
  - 004—SQL Exceptions  
  - 005—SQL Statement Text  
  - 010—Host Variables  
  - 011—Object Statistics per SQL Exception  
  - 012—Call stack info per exception |
| APERRROR       | Specify Y to collect APPTUNE SQL error data. APPTUNE/SQL Performance BMC IFCID:  
  - 007—SQL Errors |
| APOBJECT       | Specify Y to collect APPTUNE object summary data. APPTUNE/SQL Performance Object Statistics. BMC IFCIDs:  
  - 008—SQL Statement/Object Cross-Reference  
  - 009—Access Object Statistics |
| DB2ACCT        | Specify Y to collect DB2 accounting data. DB2 accounting records DB2 IFCIDs:  
  - 003—Accounting  
  - 239—Package Accounting DBRMs |
| DB2SYS         | Specify Y to collect DB2 statistics events data. DB2 system records DB2 IFCIDs:  
  - 001—System Statistics  
  - 002—Database Statistics  
  - 105—DBID/OBID Translate to Names  
  - 107—Page Set OPEN/CLOSE |
| DB2AUDIT       | Specify Y to collect DB2 audit data. DB2 audit records DB2 IFCIDs:  
  - 140—Audit Authorization Failures  
  - 141—Audit GRANTs and REVOKEs  
  - 142—Audited Object DDL  
  - 143—Audited Object First Write Attempt  
  - 144—Audited Object First Read Attempt  
  - 145—Audited Object DML at BIND  
  - 146—User-Defined Audit Trace  
  - 312—Audit Trail for DCE Security Processing |
| DB2PERF        | Specify Y to collect DB2 performance data. DB2 performance records (all other DB2 IFCIDs) MainView for DB2 - Data Collector IFCIDs:  
  - 022 and 63—Dynamic SQL Tracing  
  - 023-025—Utility Processing  
  - 090—Text of DB2 Command  
  - 125—RID List Processing  
  - 173—ASUTIME Exceeded  
  - 225—Storage Summary |
<table>
<thead>
<tr>
<th>Data class</th>
<th>IFCIDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERTUNE</td>
<td>Specify Y to collect OPERTUNE events data.</td>
</tr>
<tr>
<td></td>
<td>Note: This data class applies only if you are using the OPERTUNE for DB2 product with another of the System and SQL Performance products</td>
</tr>
<tr>
<td></td>
<td>OPERTUNE records (BMC IFCID 17)</td>
</tr>
<tr>
<td>PAHIST</td>
<td>Specify Y to collect Pool Advisor history data.</td>
</tr>
<tr>
<td></td>
<td>Pool Advisor History. BMC IFCIDs:</td>
</tr>
<tr>
<td></td>
<td>■ 072—DB2 Storage Usage Status</td>
</tr>
<tr>
<td></td>
<td>■ 082—DB2 Page Set Access Statistics</td>
</tr>
<tr>
<td></td>
<td>■ 086—DB2 Object Getpage Statistics</td>
</tr>
<tr>
<td></td>
<td>■ 089—DB2 Object Getpage Event Trace</td>
</tr>
<tr>
<td></td>
<td>■ 095—DB2 Dynamic Statement Cache Plan/DBRM (History)</td>
</tr>
<tr>
<td></td>
<td>■ 096—DB2 Dynamic Statement Cache by Plan (History)</td>
</tr>
<tr>
<td></td>
<td>■ 097—DB2 Dynamic Statement Cache by DBRM (History)</td>
</tr>
<tr>
<td></td>
<td>■ 098—DB2 Dynamic Statement Cache by Corr ID (History)</td>
</tr>
<tr>
<td></td>
<td>■ 099—DB2 Dynamic Statement Cache by Conn ID (History)</td>
</tr>
<tr>
<td>MVDBACC</td>
<td>Specify Y to collect MainView for DB2 - DC accounting summary data.</td>
</tr>
<tr>
<td></td>
<td>MainView for DB2 - Data Collector Accounting Summary Records (BMC IFCIDs 350–352)</td>
</tr>
</tbody>
</table>

- **a** This IFCID is disabled by default. It can be used optionally for batch reporting. See the *MainView User Guide* for instructions on how to activate additional IFCIDs when you want to produce a report that requires them.
- **b** Only valid for MainView for DB2

6 Expand the NGL LOGSET Parameters section to specify the Next Generation Logger (NGL) LOGSET parameters for the output group. See Table 12 on page 105 for a description of the NGL LOGSET parameters.
Table 12: NGL LOGSET parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logset Compression</td>
<td>Specify how to compress the log file data or to disable compression:</td>
</tr>
<tr>
<td></td>
<td>■ LOW (default), is considered the optimal balance of compression and CPU usage</td>
</tr>
<tr>
<td></td>
<td>■ HIGH saves more DASD space but use significantly more CPU (including zIIP usage where available)</td>
</tr>
<tr>
<td></td>
<td>■ NO disables compression, saving CPU usage at the expense of DASD space</td>
</tr>
<tr>
<td>LOGSET time span</td>
<td>Specify the amount of time that you would like to have data kept in log files, in days (D), hours (H), or minutes (M). You can specify only one type. If you specify a number without a type, the value defaults to days. If all of the log files become full in less time than this time span allows, more log files are allocated, up to the maximum allowed.</td>
</tr>
<tr>
<td>Max log buffers</td>
<td>Specify the maximum number of log I/O buffers to use. Valid values are 2 through 20.</td>
</tr>
<tr>
<td>Max read buffers</td>
<td>Specify the maximum number of read I/O buffers to use. Valid values are 2 through 99.</td>
</tr>
<tr>
<td>Deferred write time</td>
<td>Specify the maximum time delay before buffered records are written to the DASD log files. A shorter deferred time requires more write I/Os but means less vulnerability to data loss if an outage occurs. Valid values are 1 through 999 seconds.</td>
</tr>
<tr>
<td>Minimum log file data sets (LDS)</td>
<td>Specify the number of log file datasets that are allocated when the data collector starts. Valid values are 1 through 99.</td>
</tr>
<tr>
<td>Maximum log file data sets (LDS)</td>
<td>Specify the maximum number of log file datasets that can be allocated as needed to meet the LOGSET time span goal. Valid values are 1 through 99.</td>
</tr>
<tr>
<td>Space to allocate (per LDS)</td>
<td>Specify the total space used for each LOGFILE. Valid values are 1 through 9999 MB.</td>
</tr>
<tr>
<td>LDS Allocation Type</td>
<td>Specify the type of allocation parameters to be used.</td>
</tr>
<tr>
<td></td>
<td>■ SMS: DFSMS parameters are used and you must provide at least one of the SMS parameters (storage class, management class, data class)</td>
</tr>
<tr>
<td></td>
<td>■ VOL: you must provide a traditional VOLSER to indicate where the LOGFILE should be allocated.</td>
</tr>
<tr>
<td></td>
<td>■ NONE: you provide no allocation parameters and the system defaults are used</td>
</tr>
<tr>
<td>LDS Volume</td>
<td><em>(mandatory if you select type volume)</em> Specify the volume for the LOGSET.</td>
</tr>
<tr>
<td>LDS DFSMS Data Class</td>
<td><em>(mandatory if you select type SMS)</em> Specify the DFSMS data class for the LOGSET.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>LDS DFSMS Management class</td>
<td><em>(mandatory if you select type SMS)</em> Specify the DFSMS management class for the LOGSET.</td>
</tr>
<tr>
<td>LDS DFSMS Storage Class</td>
<td><em>(mandatory if you select type SMS)</em> Specify the DFSMS storage class for the LOGSET.</td>
</tr>
<tr>
<td>LDS DSN prefix</td>
<td>Specify the DSN prefix for the LOGSET (log file) data sets. <strong>Note:</strong> Supports system static and dynamic symbols</td>
</tr>
<tr>
<td>Enable Archiving</td>
<td>Specify Y to enable LOGSET data set archiving.</td>
</tr>
<tr>
<td>Archive Wait Time</td>
<td>Specify the maximum time in seconds to wait for an archive to finish before reusing a LOGFILE. Allowed values are 1-9999, with a default of 600.</td>
</tr>
<tr>
<td>Archive post processing job</td>
<td><em>(optional)</em> Specify the data set that contains the job that will execute when the archive job is done.</td>
</tr>
<tr>
<td>Max days to keep archives</td>
<td>Specify the number of days to keep archive data sets. Valid values are 1 through 999 days, or 0 which indicates no limit.</td>
</tr>
<tr>
<td>Max number of archives to keep</td>
<td>Specify the number of archived data sets to keep. Valid values are 1 through 999 archives, or 0 which indicates no limit.</td>
</tr>
<tr>
<td>Max combined size of archives</td>
<td>Specify the total space used by all archive data sets. Valid values are 1 through 999999 MB, or 0 which indicates no limit.</td>
</tr>
<tr>
<td>Archive file allocation type</td>
<td>Specify the type of allocation parameters to be used.</td>
</tr>
<tr>
<td></td>
<td>■ SMS: DFSMS parameters are used and you must provide at least one of the following SMS parameters (storage class, management class, data class)</td>
</tr>
<tr>
<td></td>
<td>■ VOL: you must provide a traditional VOLSER to indicate where the LOGFILE should be allocated.</td>
</tr>
<tr>
<td></td>
<td>■ UNIT: Specify any valid unit name</td>
</tr>
<tr>
<td></td>
<td>■ NONE: you provide no allocation parameters and the system defaults are used</td>
</tr>
<tr>
<td>Archive Volume</td>
<td><em>(mandatory if you select type volume)</em> Specify the volume for the LOGSET.</td>
</tr>
<tr>
<td>Archive Unit</td>
<td><em>(mandatory if you select type unit)</em> Specify the unit for the LOGSET.</td>
</tr>
<tr>
<td>Archive DFSMS Data class</td>
<td><em>(mandatory if you select type SMS)</em> Specify the volume for the archive.</td>
</tr>
<tr>
<td>Archive DFSMS Management class</td>
<td><em>(mandatory if you select type SMS)</em> Specify the DFSMS management class for the archive.</td>
</tr>
<tr>
<td>Archive DFSMS Storage class</td>
<td><em>(mandatory if you select type SMS)</em> Specify the DFSMS storage class for the archive.</td>
</tr>
</tbody>
</table>
Parameter | Description
---|---
Archive GDG | Specify Yes to configure the enabled DSN prefix (Archive DSN Prefix or the Alternate full archive DSN) as the base name for a generation data group. All members of the archive output data set are members of a generation data group (GDG).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| Archive DSN prefix | *(optional)* Specify the DSN prefix for the archive. *
| Alternate full archive DSN | *(optional)* Specify the archive DSN. The product uses this value in place of the value defined as the Archive DSN prefix. You must ensure that the name is unique for each archive created. BMC suggests using date and time symbolics in the name. *

**Example:** For example: `BMCPERF.D&YYMMDD.T&HHMMSS`

- Supports system static and dynamic symbols
- The Archive DSN prefix and Alternate full archive DSN are mutually exclusive. Specify a value for one or the other.

7 Enter DB2 subsystem names on the lines in the DB2 Subsystem IDs fields. Place your cursor on > (the greater-than sign) and press **Enter** to zoom to more fields to enter additional SSIDs.

**Note**

You must recycle the Data Collector, using the DOMSTOP and DOMSTART, or DOMREFRESH commands, to make your changes take effect.

For more information regarding DOMSTOP, DOMREFRESH, and DOMSTART commands, see *System and SQL Performance for DB2 Administrator Guide*.

---

**Deleting obsolete option sets**

Use the following procedure to delete a DOMPLEX option set that you no longer need.

**To delete a DOMPLEX option set**

1 On the DOMPLEX Option Sets panel (see DOMPLEX Option Sets panel (LGCP1001) in “Creating a DOMPLEX option set” on page 88), type **D** next to the option set that you want to delete.

2 Press **Enter**.
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