

IBM IMS Tools Base for z/OS  
1.7

*IMS Tools Knowledge Base User's Guide  
and Reference*



**Note:**

Before using this information and the product it supports, read the information in [“Notices” on page 323.](#)

**Fifth Edition (August 2025)**

This edition applies to Version 1.7 of IBM IMS Tools Base for z/OS (program number 5655-V93) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC27-9855-03.

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# About this information

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IBM IMS Tools Base for z/OS® IMS Tools Knowledge Base (also referred to as IMS Tools Knowledge Base or IMS Tools KB) is the foundational infrastructure that provides a centralized information management environment for IMS Tools products. By using IMS Tools Knowledge Base, you can store, manage, and access resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

These topics provide instructions for installing, configuring, and using IMS Tools Knowledge Base.

To use these instructions, you must have already installed IMS Tools Knowledge Base by completing the instructions in the *Program Directory for IBM IMS Tools Base for z/OS* (GI10-8819), which is included with the product media and is also available on the IMS Tools Product Documentation page.

These topics are designed to help database administrators, system programmers, application programmers, and system operators perform the following tasks:

- Understand the capabilities of the functions that are associated with IMS Tools Knowledge Base
- Install and operate IMS Tools Knowledge Base
- Customize your IMS Tools Knowledge Base environment
- Diagnose and recover from IMS Tools Knowledge Base problems
- Use IMS Tools Knowledge Base with other IMS products

To use these topics, you should have a working knowledge of:

- The z/OS operating system
- ISPF
- SMP/E
- IMS

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

<https://www.ibm.com/support/pages/node/712955>

The IMS Tools Product Documentation web page includes:

- Links to [IBM Documentation](#) for the user guides ("HTML")
- PDF versions of the user guides ("PDF")
- Program Directories for IMS Tools products
- Technical articles from IBM Software Support
- White papers that describe product business scenarios and solutions



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# Part 1. IMS Tools Knowledge Base overview

IBM IMS Tools Base for z/OS IMS Tools Knowledge Base (also referred to as IMS Tools Knowledge Base or IMS Tools KB) is the foundational infrastructure that provides a centralized information management environment for IMS Tools products.

By using IMS Tools Knowledge Base, you can store, manage, and access resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

**Topics:**

- [Chapter 1, “IMS Tools Knowledge Base overview,” on page 3](#)
- [Chapter 2, “Configuring an initial installation of IMS Tools Knowledge Base,” on page 15](#)



# Chapter 1. IMS Tools Knowledge Base overview

IBM IMS Tools Base for z/OS IMS Tools Knowledge Base (also referred to as IMS Tools Knowledge Base or IMS Tools KB) provides common services for storing and viewing resources (such as reports, sensor data, policies, and rules) that are generated or used by other participating IMS Tools products.

## Topics:

- [“What's new in IMS Tools Knowledge Base” on page 3](#)
- [“What does IMS Tools Knowledge Base do?” on page 5](#)
- [“IBM IMS Tools Base for z/OS” on page 6](#)
- [“Information management process flow” on page 7](#)
- [“Report service environment” on page 8](#)
- [“Policy Services environment \(conditional reorganization example\)” on page 9](#)
- [“Utility history environment” on page 10](#)
- [“Autonomics Director environment” on page 10](#)
- [“Service updates and support information” on page 11](#)
- [“Product documentation and updates” on page 12](#)
- [“Accessibility features” on page 12](#)

## What's new in IMS Tools Knowledge Base

This topic summarizes the technical changes for this edition.

New and changed information is indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

Revision markers follow these general conventions:

- Only technical changes are marked; style and grammatical changes are not marked.
- If part of an element, such as a paragraph, syntax diagram, list item, task step, or figure is changed, the entire element is marked with revision markers, even though only part of the element might have changed.
- If a topic is changed by more than 50%, the entire topic is marked with revision markers (so it might seem to be a new topic, even though it is not).

Revision markers do not necessarily indicate all the changes made to the information because deleted text and graphics cannot be marked with revision markers.

## SC27-9855-04 - August 2025

*Table 1. SC27-9855-04 updates*

Description	Related APARs
The ISPF user interface has been enhanced to display IMS DBDS reports, which provide various information about database data sets, based on collected sensor data.  The following topics have been added: <ul style="list-style-type: none"><li>• <a href="#">Part 4, “Database data sets display services reference,” on page 103</a></li><li>• <a href="#">Chapter 26, “Column display functions,” on page 307</a></li></ul>	PH62928

## SC27-9855-03 - February 2025

Table 2. SC27-9855-03 updates

Description	Related APARs
<p>DSNDEF DD statement support for the product administration utility (HKTAPRA0). Use the DSNDEF DD statement to register IMS Tools product libraries and sample libraries to the IMS Tools information management environment. By using the DSNDEF DD statement, you can register product library data sets by their names or by their alias names. For details, see the <i>IMS Tools Base Configuration Guide</i>.</p> <p>The following messages in <a href="#">Chapter 20, “HKT error messages (repositories),” on page 231</a> have been added or updated:</p> <ul style="list-style-type: none"><li>• HKT2510E</li><li>• HKT2539E</li><li>• HKT2540E</li><li>• HKT2541E</li><li>• HKT2542E</li><li>• HKT2543E</li></ul>	PH63794

## SC27-9855-02 - December 2024

Table 3. SC27-9855-02 updates

Description	Related APARs
<p>A new utility, the Data Publisher Utility, has been added. You can use the Data Publisher Utility to export sensor data from the Sensor Data repository in CSV format and generate Db2 DDL statements and Db2 LOAD control statements, which you can use to load the CSV data into Db2 tables.</p> <p>The following topics have been added or updated:</p> <ul style="list-style-type: none"><li>• <a href="#">Chapter 15, “Data Publisher Utility,” on page 141</a></li><li>• <a href="#">Chapter 20, “HKT error messages (repositories),” on page 231</a></li></ul>	PH63864

## SC27-9855-01 - December 2023

Table 4. SC27-9855-01 updates

Description	Related APARs
Message FPQ2108E has been added for this APAR.	PH58151
Updated explanations for messages in the following topics:	N/A

- [Chapter 17, “FPQ error messages \(repository server\),” on page 181](#)
- [Chapter 20, “HKT error messages \(repositories\),” on page 231](#)
- [Chapter 21, “HKTD error messages \(discovery utility\),” on page 277](#)

*Table 5. SC27-9855-00 updates*

Description	Related APARs
Refreshed for IMS Tools Base 1.7. The following topics have been updated or added: <ul style="list-style-type: none"><li>• <a href="#">“Viewing repository information” on page 19</a></li><li>• <a href="#">“Starting and stopping repositories (ISPF)” on page 21</a></li><li>• <a href="#">“Starting and stopping repositories (batch)” on page 22</a></li><li>• <a href="#">“Setting the repository autoOPEN condition” on page 26</a></li><li>• <a href="#">“Connecting an additional Output repository” on page 31</a></li><li>• <a href="#">“Disconnecting an Output repository” on page 34</a></li><li>• Message HKTID515E</li><li>• Chapter 25, “Gathering diagnostic documentation,” on page 303</li></ul>	N/A

## What does IMS Tools Knowledge Base do?

IMS Tools Knowledge Base is the foundational infrastructure that provides a centralized information management environment for IMS Tools products. By using IMS Tools Knowledge Base, you can store, manage, and access resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

IMS Tools Knowledge Base provides a common information management service that allows the sharing of data generated and used by multiple tool products within a sysplex. IMS Tools Knowledge Base is managed from a single, centralized user interface.

### Report services support

Database administration responsibilities can include ensuring the availability and maintenance of many hundreds or thousands of databases. These database administration tasks require the services of many tools to perform backup, reorganization, and analysis operations. Reports that are generated by the tools during these operations can provide valuable information, such as documenting the success of tool execution or reporting statistics on the state of a database at that time.

Most of these reports are valuable to you long after they are generated. The reports, and the data that is provided in these reports, allow you to better use the rich information that is produced by the tools. Typically, however, most reports are deleted because there is no useful way to save and organize them.

The IMS Tools Knowledge Base information management environment, operating within a sysplex, allows automatic capturing of reports that are generated by participating IMS Tools products and storing of these reports in a central report (output) repository.

### Sensor data services support

Sensor data is the information collected by a sensor-enabled IMS Tools product that measures the state of a specific database condition. The information is handled by the IMS Tools Knowledge Base server and stored in a central IMS Tools Knowledge Base Sensor Data repository.

### Policy Services support

Policy Services can analyze specific database activity data that is collected by an IMS Tools product, and provide a response to any events that exceed the threshold limits specified for this data. All Policy Services-related information (such as policies, rules, directory entries, and notification lists) is stored in and managed by central repositories controlled by IMS Tools Knowledge Base Input repository.

## Autonomics Director support

The Autonomics Director server records user defined parameter data for monitored databases and groups. It also records period definitions and evaluation data history for monitored databases. The data is stored and accessed by the Autonomics Director server in IMS Tools Knowledge Base.

## Product features and benefits

This version of IMS Tools Knowledge Base provides the following features and benefits:

- Central repositories that are shared by all registered IMS Tools products in a sysplex and that provide convenient administration
- A central repository for automatically collecting reports that are generated by participating IMS Tools products
- Central repositories for storing Policy Services resources, such as policies, rules, directory entries, notification lists, and sensor data
- Central repository for storing Sensor Data that is used for database analysis and tuning purposes
- Central repository for storing Autonomics Director data, including monitor list entries and results of database evaluations
- Support for multiple IMS Tools products that are enabled for and registered with the IMS Tools Knowledge Base environment
- An interactive user interface (ISPF) with extensive and flexible search capabilities to quickly locate the stored resources that you need and then display them from anywhere in the sysplex environment
- Preservation of data for future trend analysis and decision making
- Report and policy environment history retention, to provide a history of database analysis and actions taken
- Access to historical report and policy environment data for accurate decision making
- Report retention based on user-defined criteria, such as the number of days and the number of versions of a report
- Report retention customized for individual tools or individual reports
- Automatic report deletion, after a report is expired

## IBM IMS Tools Base for z/OS

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IBM IMS Tools Base for z/OS (also referred to as IMS Tools Base) provides a means to streamline the control and delivery of existing common code components, services, and infrastructure code to IBM customers in a more effective way.

IMS Tools Base provides a simplified and more efficient delivery of common parts used by IMS Tools products. The included products and components provide required infrastructure code for all IMS Tools key strategies including autonomics, rule-based programming, and GUI support.

Common code components, for example, IMS Tools Online System Interface and IMS Tools Generic Exits are used by some of the IMS Tools products to connect into the IMS system.

In addition to common components, IMS Tools Base also includes products that are useful to customers when they are widely deployed as part of an overall solution.

IMS Tools Base is composed of the following tools and components:

- Autonomics Director
- Policy Services
- IMS Tools Knowledge Base
- Distributed Access Infrastructure
- IMS Tools Common Services (including IMS Tools Generic Exits and IMS Tools Online System Interface)

- IMS Hardware Data (HD) Compression Extended

## About IMS Tools Knowledge Base

With its common repository and viewing interface, IMS Tools Knowledge Base can provide centralized data storage, access, and management capabilities for a complex sysplex environment. Central repositories allow access to historical data for accurate decision making. Stored resources can be found quickly using the powerful search capability, and data can be preserved for future trend analysis and decision making. IMS Tools Knowledge Base becomes the single platform within a sysplex environment for multiple IMS Tools products to share resources.

Always refer to the appropriate product information and description for any IMS Tools product to determine if the tool is enabled for operation with IMS Tools Knowledge Base. Many existing versions of IMS Tools products can be enabled by applying a service update.

## Business scenarios for report services

The centralized IMS Tools Knowledge Base repository allows you to save and organize database reports that are normally discarded. These preserved reports can provide you with accurate information for future analysis, problem-solving, and research.

The following example scenarios illustrate the kinds of problems that can be solved with the IMS Tools Knowledge Base information management system:

### Report storage and access

- How can I save valuable reports?
- How can I locate a report I saved?
- How can I access reports using various criteria information?

### Analysis of historical data

- What did Space Monitor report the last time I ran it against this database?
- What did Space Monitor report last month?
- What did Space Monitor report six months ago?

### Tracking of database actions

- Did I run IMS HP Pointer Checker against this database recently?
- Was this database reorganized last month?

## Information management process flow

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The IMS Tools Knowledge Base information management environment, operating within a sysplex, allows the storing, managing, and accessing of resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

Resources are handled and stored in central repositories by the IMS Tools Knowledge Base server.

The following diagram illustrates the process flow for the IMS Tools Knowledge Base information management environment:

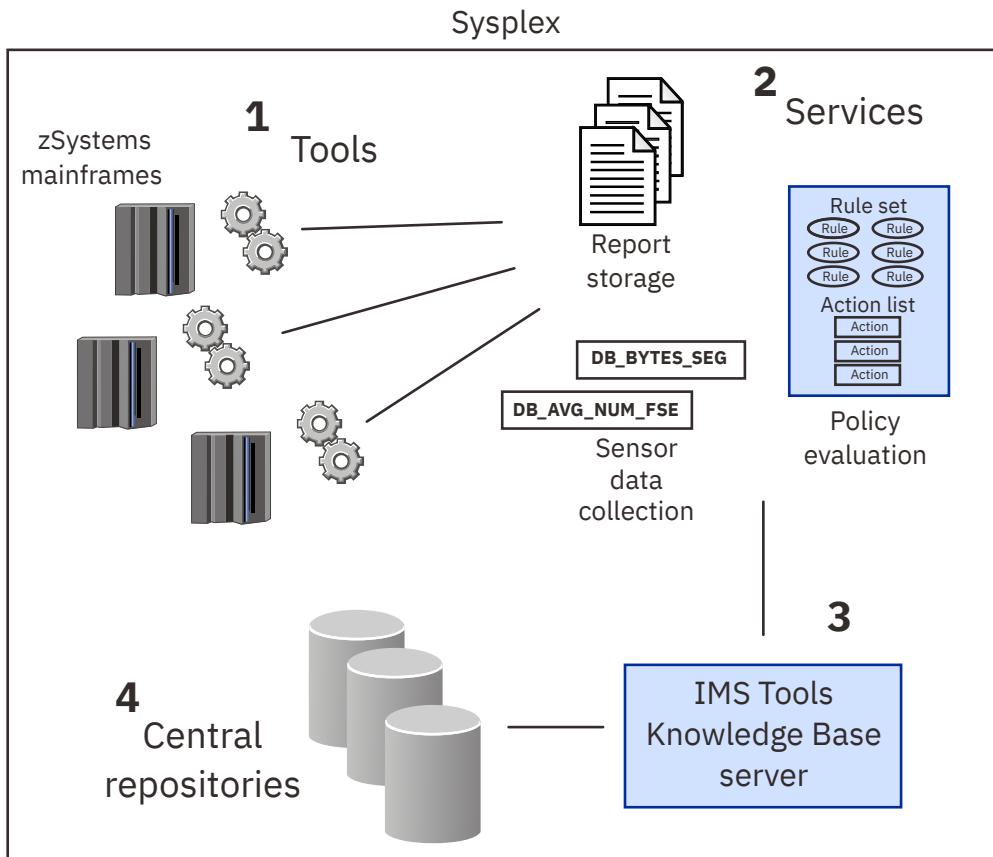


Figure 1. Information management process flow

The following process flow steps match the numbers in the diagram:

1. IMS Tools products perform operations that produce data resources for use by services, or request information from services.
2. Services (such as report storage, sensor data collection, and policy services) process the information.
3. The IMS Tools Knowledge Base server (or simply *IMS Tools KB server*) handles the data exchange between the services and the repositories where the data is stored.
4. Central repositories, managed by the IMS Tools Knowledge Base server, allow access to current and archived information (such as reports and policy data).

## Report service environment

The IMS Tools Knowledge Base report service allows automatic capturing of reports that are generated by participating IMS Tools products and storing of these reports in a central report repository.

The IMS Tools Knowledge Base information management environment consists of the following components:

- One or more primary IMS Tools Knowledge Base servers  
You can divide workload and data storage between logical environments.
- One or more secondary IMS Tools Knowledge Base servers  
Failover recovery ensures that the server is available to record reports.
- Central report repository database
- IMS Tools products, enabled for and registered with IMS Tools Knowledge Base
- XCF interface that is used to transmit reports to the IMS Tools Knowledge Base server

- ISPF interface that is used for report access and administration

The following diagram illustrates the interaction of these components within a sysplex:

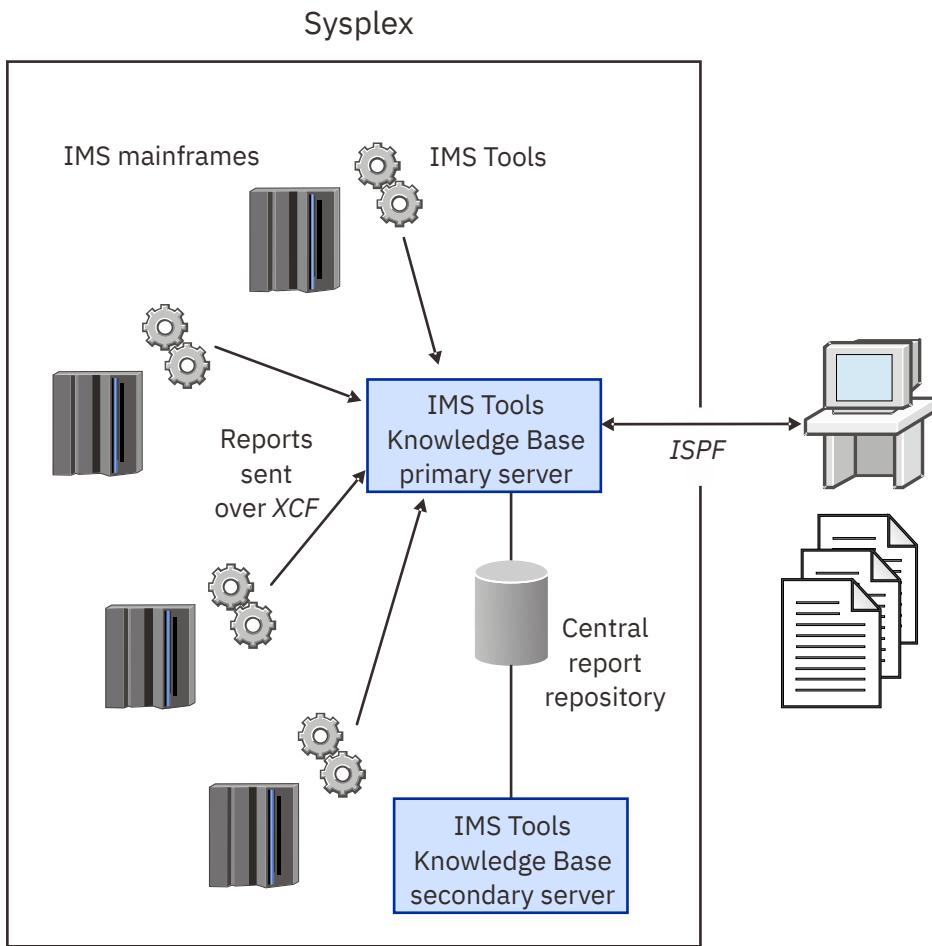


Figure 2. IMS Tools Knowledge Base report service environment

## Policy Services environment (conditional reorganization example)

Policy Services can evaluate the data collected by an IMS Tools product about a specific database activity, and can provide a response to any events that exceed the threshold limits specified for this data.

Policy Services provides policy-based database management for members of the IMS Tools product family that are enabled to participate in a conditional autonomics environment. All information is stored in and managed by central repositories controlled by IMS Tools Knowledge Base.

IMS Database Reorganization Expert, with Policy Services, can assist the duties of database administration by providing policy-based conditional database reorganization for the databases important to the business. IMS Database Reorganization Expert uses its Smart Reorg utility to coordinate the evaluation of reorganization policies, and to implement an appropriate response to the reaching or exceeding of thresholds specified for the sensor data collected by the tool.

The conditional reorganization job is like a standard IMS Database Reorganization Expert job. The main difference is that the conditional reorganization job, rather than the Database Administrator (DBA), decides whether to reorganize the database.

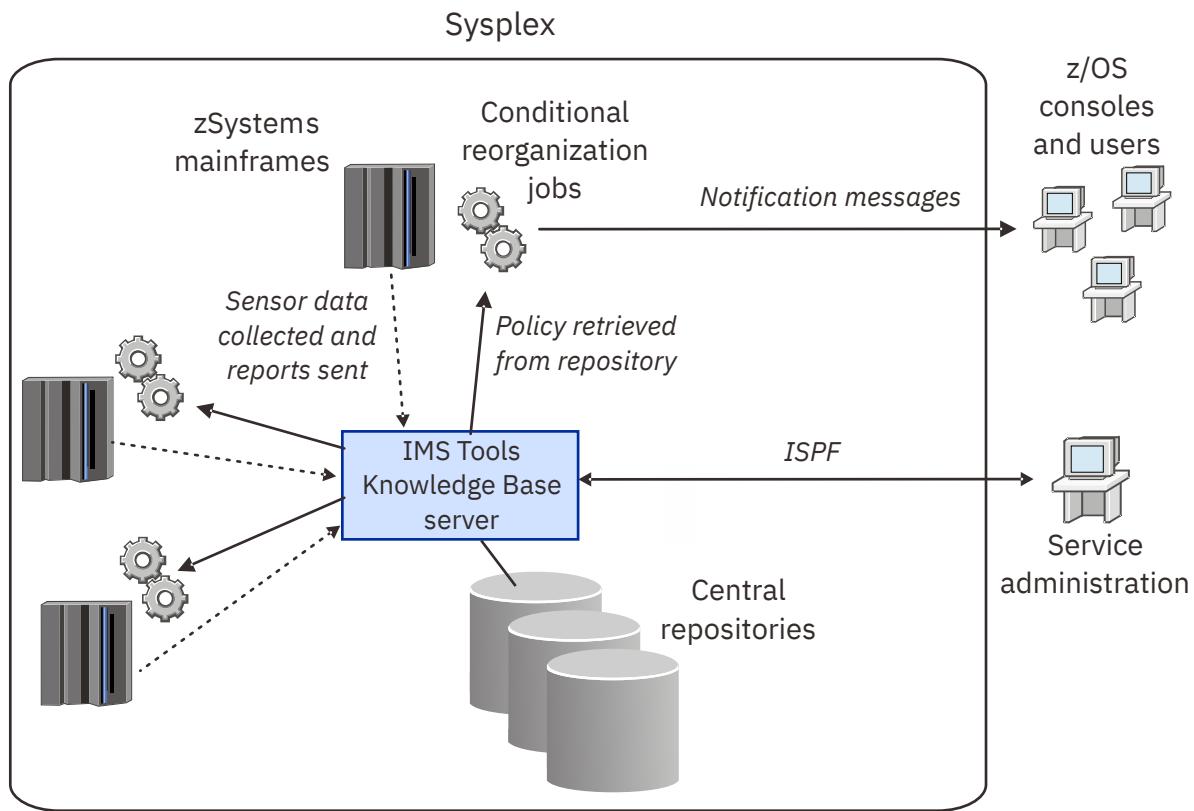


Figure 3. Example Policy Services sysplex scenario

Refer to the *IMS Database Reorganization Expert User's Guide* and *IMS Online Reorganization Facility User's Guide* for full details on how these IMS Tools products use Policy Services to perform conditional database reorganizations.

## Utility history environment

The utility history service of IMS Tools Base IMS Tools Knowledge Base allows for automatic capturing of job information and statistics (*utility history data*) of participating IMS Tools products and stores this data in a central repository. The utility history data that is stored in the repository can be used by Policy Services to formulate job recommendations.

For example, Policy Services can access information about when and how often the conditional reorganization feature of the Smart Reorg utility in IMS Database Reorganization Expert and IMS Online Reorganization Facility has been run on a database and use this information to determine whether a reorganization is needed or not.

Refer to the *IMS Database Reorganization Expert User's Guide* and *IMS Online Reorganization Facility User's Guide* for full details on how these IMS Tools products use Policy Services to perform conditional database reorganizations.

## Autonomics Director environment

Autonomics Director provides automation of recurring IMS database monitoring and maintenance activities based on a detailed understanding of the current state of your IMS databases.

The Autonomics Director environment is composed of several IMS Tools components.

The following figure illustrates the environment and the process flow for using Autonomics Director.

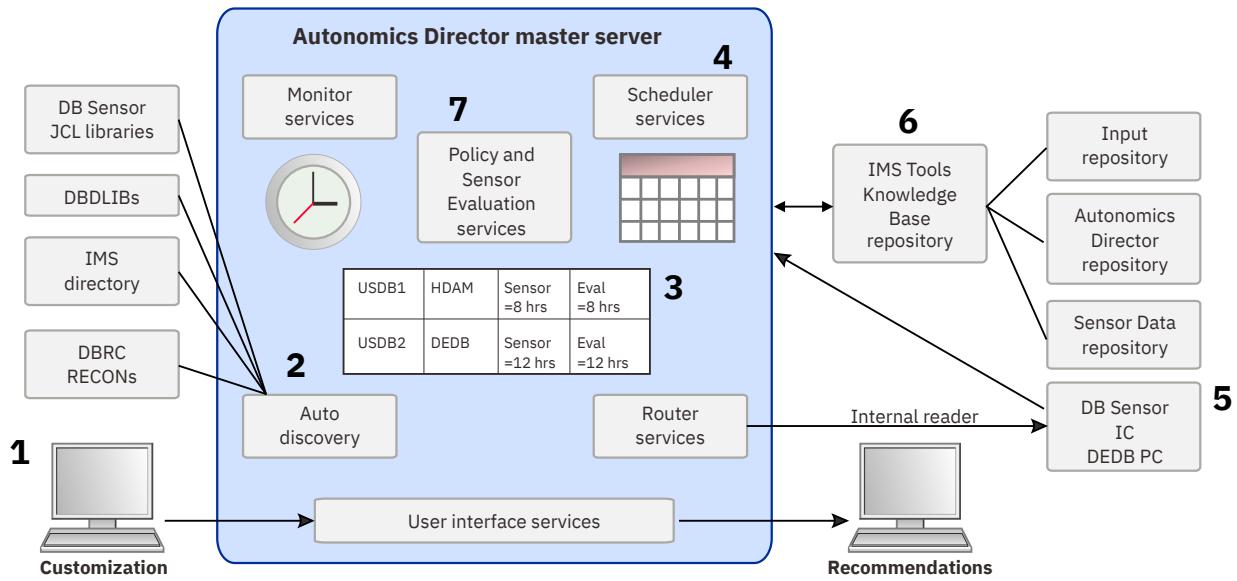


Figure 4. Autonomics Director process flow

The following process flow steps match the numbers in the figure:

1. The user customizes the Autonomics Director environment by using the Autonomics Director ISPF interface.
2. Autonomics Director collects database and group information from the DBD libraries and the RECON data sets. If the IMS-managed ACBs function is enabled, it collects the information from the IMS directory.
3. The user creates a monitor list that consists of group and database names with attributes that are saved in the Autonomics Director repository and that are available for monitoring.
4. The user defines parameters that control how frequently data is collected and policies are evaluated by Autonomics Director. The user can also schedule immediate and deferred data collection and policy evaluations.
5. Sensor data is collected to capture the status of databases at a specific point in time. The user can also request that Autonomics Director submit a batch job to collect the most up-to-date sensor data.
6. Policies and rules defined by Policy Services are stored in the IMS Tools Knowledge Base Input repository and are accessed by Autonomics Director. Results from the database evaluations are stored in the Autonomics Director repository and are accessed during inquiries from the client.
7. Autonomics Director uses policies and rules that are defined in Policy Services to evaluate against the most recent database sensor data.

## Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, frequently asked questions (FAQs), technical notes, troubleshooting information, and downloads, are available from the web.

To find service updates and support information, see the following website:

[IBM Support: IMS Tools Base for z/OS](#)

# Product documentation and updates

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IMS Tools information is available at multiple places on the web. You can receive updates to IMS Tools information automatically by registering with the IBM My Notifications service.

## Information on the web

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

<https://www.ibm.com/support/pages/node/712955>

The IMS Tools Product Documentation web page includes:

- Links to [IBM Documentation](#) for the user guides ("HTML")
- PDF versions of the user guides ("PDF")
- Program Directories for IMS Tools products
- Technical articles from IBM Software Support
- White papers that describe product business scenarios and solutions

IBM Redbooks® publications that cover IMS Tools are available from the following web page:

<http://www.redbooks.ibm.com>

The IBM Information Management System website shows how IT organizations can maximize their investment in IMS databases while staying ahead of today's top data management challenges:

<https://www.ibm.com/software/data/ims>

## Receiving documentation updates automatically

To automatically receive emails that notify you when new technical articles are released, when existing product documentation is updated, and when new product documentation is available, you can register with the IBM My Notifications service. You can customize the service so that you receive information about only those IBM products that you specify.

To register with the My Notifications service:

1. Go to <https://www.ibm.com/support/mynotifications>
2. Enter your IBM ID and password, or create one by clicking **register now**.
3. When the My Notifications page is displayed, click **Subscribe** to select those products that you want to receive information updates about. The IMS Tools option is located under **Software > Information Management**.
4. Click **Continue** to specify the types of updates that you want to receive.
5. Click **Submit** to save your profile.

## How to send your comments

Your feedback is important in helping us provide the most accurate and highest quality information. If you have any comments about this information, see [How to provide feedback in IBM Documentation](#).

When you provide feedback, include as much information as you can about the content you are commenting on, where we can find it, and what your suggestions for improvement might be.

# Accessibility features

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Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use a software product successfully.

The major accessibility features in this product enable users to perform the following activities:

- Use assistive technologies such as screen readers and screen magnifier software. Consult the assistive technology documentation for specific information when using it to access z/OS interfaces.
- Customize display attributes such as color, contrast, and font size.
- Operate specific or equivalent features by using only the keyboard. Refer to the following publications for information about accessing ISPF interfaces:
  - *z/OS ISPF User's Guide, Volume 1*
  - *z/OS TSO/E Primer*
  - *z/OS TSO/E User's Guide*

These guides describe how to use the ISPF interface, including the use of keyboard shortcuts or function keys (PF keys), include the default settings for the PF keys, and explain how to modify their functions.



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## Chapter 2. Configuring an initial installation of IMS Tools Knowledge Base

Information about configuring IMS Tools Knowledge Base and other IMS Tools Base components is provided in *IMS Tools Base Configuration Guide*.



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## Part 2. Repository reference

IMS Tools Knowledge Base is the foundational infrastructure that provides a centralized information management environment for IMS Tools products.

By using IMS Tools Knowledge Base, you can store, manage, and access resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

**Topics:**

- [Chapter 3, “Repository administration,” on page 19](#)
- [Chapter 4, “Implementing a new Output repository,” on page 29](#)
- [Chapter 5, “Maintaining repository data sets,” on page 37](#)
- [Chapter 6, “IMS Tools Knowledge Base server commands,” on page 43](#)



# Chapter 3. Repository administration

For repository administration tasks, use options from the **Administration** menu of the IMS Tools Knowledge Base main menu.

## Topics:

- [“Viewing repository information” on page 19](#)
- [“Starting and stopping repositories \(ISPF\)” on page 21](#)
- [“Starting and stopping repositories \(batch\)” on page 22](#)
- [“Setting the repository autoOPEN condition” on page 26](#)
- [“Setting the retention period for the Sensor Data repository” on page 27](#)

## Viewing repository information

You can view information about any of the repositories used by IMS Tools Knowledge Base.

### About this task

Among other data, the information panel shows the data sets names for the Input, Output, and Registry repositories as defined in the Catalog repository.

### Procedure

To view repository information, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:



Figure 5. Administration menu options

2. Select option 3 (**List Repositories**). Press Enter.

The **Repositories** panel is displayed.

For example:

```

Commands  Help
-----
SERVER: FPQRDP01          Repositories          Row 1 to 5 of 5
Command ==>

Enter a command, select a row action or press End to exit.

Row actions: I - Information S - Start  P - STOP  D -Disconnect  A - AutoOPEN

Action  Prefix      Name      Type      Stopped  Auto
      BSN_      SENSOR    SENSOR    N        Y
      HKT_      INPUT     INPUT    N        Y
      HKT_      00000000  OUTPUT    N        Y
      HKT_      REGISTRY  REGISTRY N        Y
      IAV_      AUTODIR  AUTODIR N        Y
*****
***** Bottom of data *****
```

Figure 6. *Repositories* panel

Normally you should see a listing for the Input, Output, and Registry repositories.

You can connect additional Output repositories to your information management environment. The **Repositories** panel list will show any additional Output repositories that you created.

3. Use the **Information** row action (I) for the appropriate repository. Press Enter.

The **Repository Information** panel is displayed.

For example:

```

Help
-----
SERVER: FPQRDP01          Repository Information          Ver 1.7.0
Command ==>                      Scroll ==> PAGE

Prefix : HKT_  Name . : 00000000  Type . : OUTPUT  Stopped : N  Auto . : Y

Dataset Names

Primary Index . . . : RDEFAL1.00000000.PRID
Primary Data . . . : RDEFAL1.00000000.PRMD
Secondary Index . . . : RDEFAL1.00000000.SRID
Secondary Data . . . : RDEFAL1.00000000.SRMD
Spare Index . . . : RDEFAL1.00000000.SPRID
Spare Data . . . : RDEFAL1.00000000.SPRMD
```

Figure 7. *Repository Information* panel

The **Repository Information** panel shows the following information about the repository:

Table 6. *Repository Information* panel field descriptions

Field	Description
Prefix	<p>The product prefix for the repository.</p> <p>Prefix is determined by the repository type, as follows:</p> <ul style="list-style-type: none"> <li>Sensor Data repository - BSN_</li> <li>Input, Output, or Registry repository - HKT_</li> <li>Autonomics Director repository - IAV_</li> </ul>
Name	<p>The name of the repository.</p> <p>Names must be eight characters long.</p> <p>Output repository names must start with an O and the subsequent characters must be numeric. For example: O1234567</p>

Table 6. Repository Information panel field descriptions (continued)

Field	Description
Type	One of the following repository types: REGISTRY - only one such repository exists INPUT - only one such repository exists OUTPUT - more than one such repository can exist SENSOR - only one such repository exists AUTODIR - only one such repository exists
Stopped	Repository is in either a started (N) or stopped (Y) state.
Auto	Whether the repository is started when the IMS Tools Knowledge Base server is started (Y) or upon the first reference to the repository (N).
Data Set Names	The name of the four data sets required to create a repository. These data set names must not duplicate any other repository data set names.

## Starting and stopping repositories (ISPF)

You can use the ISPF user interface to manually place the IMS Tools Knowledge Base repositories in a started or stopped state.

### About this task

For example, you might want to stop a repository while the IMS Tools Knowledge Base server is running so you can back up and restore that repository.

The start and stop operations for a repository are persistent operations and are independent of the operation of the IMS Tools Knowledge Base server. If a repository is in the Start state and the IMS Tools Knowledge Base server is stopped temporarily, the repository is restored to the Start state when the server is restarted.

### Procedure

To start or stop the repositories, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:



Figure 8. Administration menu options

2. Select option 3 (**List Repositories**). Press Enter.

The **Repositories** panel is displayed.

For example:

```

Commands  Help
-----
SERVER: FPQRDP01          Repositories          Row 1 to 5 of 5
Command ==>

Enter a command, select a row action or press End to exit.

Row actions: I - Information S - Start  P - STOP  D -Disconnect  A - AutoOPEN

Action  Prefix  Name    Type    Stopped  Auto
      BSN_    SENSOR  SENSOR   N       Y
      HKT_    INPUT   INPUT   N       Y
      HKT_    00000000 OUTPUT  N       Y
      HKT_    REGISTRY REGISTRY N       Y
      IAV_    AUTODIR AUTODIR N       Y
*****
***** Bottom of data *****

```

Figure 9. *Repositories panel*

Normally you should see a listing for the Input, Output, and Registry repositories.

You can connect additional Output repositories to your information management environment. The **Repositories** panel list will show any additional Output repositories that you created.

The state of each repository is indicated in the **Stopped** column:

- If the value for **Stopped** is N, the repository is started.
- If the value for **Stopped** is Y, the repository is not started and is not available to applications in the IMS Tools Knowledge Base environment.

3. If the repository is currently not started (Stopped=Y), use the **Start** row action (S) to start the repository.

The value for **Stopped** is immediately changed to N.

**Note:** If the value does not change to N, or it changes to N and then Y, check the job log for repository allocation or open error messages.

4. If the repository is currently started (Stopped=N), use the **STOP** row action (P) to stop the repository.

The value for **Stopped** is immediately changed to Y.

## Starting and stopping repositories (batch)

The batch utility, FPQBATCH, can be used to place individual IMS Tools Knowledge Base repositories in a started or stopped state.

For example, you might want to stop a repository while the IMS Tools Knowledge Base server is running so you can back up or reorganize that repository.

The start and stop operations for a repository are persistent operations and are independent of the operation of the IMS Tools Knowledge Base server. If a repository is in the Start state and the IMS Tools Knowledge Base server is stopped temporarily, the repository is restored to the Start state when the server is restarted.

The FPQBATCH product batch utility is executed by the job HKTSTSTP. You can provide multiple STOP and or START requests in one job.

To use the FPQBATCH program to issue the START and STOP repository commands to the IMS Tools Knowledge Base server, complete the following procedure:

1. Use the sample HKTSTSTP job included in this topic and modify the JCL appropriately for your environment and requirements.

The value of the repository name consists of the product prefix (HKT\_, BSN\_, or IAV) followed by the full repository name (including the initial letter *O*). For example (standard Output repository):

HKT 00000000

2. Submit the job and ensure that it completes with a return code=0 (RC=0).

A return code=0 from this utility indicates that the request was accepted and has begun processing.

The START and STOP commands are processed synchronously, unless the seconds option in the MAXWAIT parameter is set to 0:

MAXWAIT(0,xxxxxxxx)

The START command should complete quickly unless repository recovery is required.

The `STOP` command waits for active users of the repository to disconnect.

## Parameter reference for the EXEC control statement

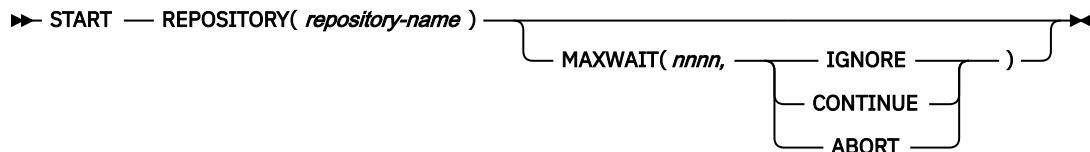
The following parameter is provided on the EXEC control statement of the HKTSTSTP job:

Table 7. Parameter for EXEC

Parameter	Description
XCFGROUP	<p>Use the IMS Tools Knowledge Base server XCF group name for this value. The name can be up to eight characters in length.</p> <p>This parameter is required.</p>

## Syntax diagram for START repository command

The following syntax diagram shows the usage of the START repository command:



## Parameter reference for the START repository command

The START repository command causes the repository to enter into an available (or STARTed) state. This state is required for applications to access the data in the repository.

If the repository AUTOOPEN property is set to Y (yes), the repository data sets are also OPENed. Otherwise, the data sets are OPENed upon the first application request for data.

Table 8. Parameters for START

<b>Parameter</b>	<b>Description</b>
REPOSITORY	This required parameter specifies the name of the repository to be started.

Table 8. Parameters for START (continued)

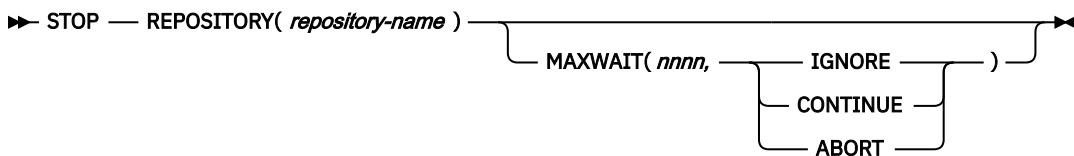
Parameter	Description
MAXWAIT	<p>The START command makes an asynchronous request to the server. The MAXWAIT parameter controls how long the utility waits for completion of the command. MAXWAIT also controls the return code value that is set if the command does not complete in the specified time.</p> <p>The default specification is: MAXWAIT(5, IGNORE)</p> <p>Specify MAXWAIT(0, IGNORE) to not wait for the command to finish.</p> <p>Processing options:</p> <p><b><i>nnnn</i></b></p> <p>The maximum number of seconds to wait for the command to complete.</p> <p>The time values can range from 0 - 9999.</p> <p>Processing resumes either immediately upon successful completion of the command or upon exceeding <i>nnnn</i> seconds, whichever is first.</p> <p>If AUTOOPEN=Y, processing waits for a state of OPENed.</p> <p>If AUTOOPEN=N, processing waits for a state of START.</p> <p><b>IGNORE   CONTINUE   ABORT</b></p> <p>Determines the return code to be set if the command does not complete within the requested timeframe.</p> <p>IGNORE does not set a return code.</p> <p>CONTINUE sets a return code of 4.</p> <p>ABORT sets a return code of 8 and terminates further command processing.</p> <p>These return codes can be checked in your job control to determine the execution of subsequent steps.</p>

For example:

- Specify MAXWAIT(0,IGNORE) to not wait and not set a return code.
- Specify MAXWAIT(5,CONTINUE) to wait up to 5 seconds and set return code 4 if the command does not complete in 5 seconds.
- Specify MAXWAIT(20,ABORT) to wait up to 20 seconds, set return code 8, and terminate processing if the command does not complete in 20 seconds.

## Syntax diagram for STOP repository command

The following syntax diagram shows the usage of the STOP repository command:



## Parameter reference for the STOP repository command

The STOP repository command causes the repository to be closed and enter into an unavailable (or STOPPED) state.

This state prevents applications from accessing the data in the repository. This state is required to backup or reorganize the repository.

Table 9. Parameters for STOP

Parameter	Description
REPOSITORY	This required parameter specifies the name of the repository to be started.
MAXWAIT	<p>The STOP command makes an asynchronous request to the server. The MAXWAIT parameter controls how long the utility waits for completion of the command. MAXWAIT also controls the return code value that is set if the command does not complete in the specified time.</p> <p>The default specification is: MAXWAIT(5, IGNORE)</p> <p>Specify MAXWAIT(0, IGNORE) to not wait for the command to finish.</p> <p>Processing options:</p> <p><b>nnnn</b></p> <p>The maximum number of seconds to wait for the command to complete.</p> <p>The time values can range from 0 - 9999.</p> <p>Processing resumes either immediately upon successful completion of the command or upon exceeding <i>nnnn</i> seconds, whichever is first.</p> <p><b>IGNORE   CONTINUE   ABORT</b></p> <p>Determines the return code to be set if the command does not complete within the requested timeframe.</p> <p>IGNORE does not set a return code.</p> <p>CONTINUE sets a return code of 4.</p> <p>ABORT sets a return code of 8 and terminates further command processing.</p> <p>These return codes can be checked in your job control to determine the execution of subsequent steps.</p>

For example:

- Specify MAXWAIT(0,IGNORE) to not wait and not set a return code.
- Specify MAXWAIT(5,CONTINUE) to wait up to 5 seconds and set return code 4 if the command does not complete in 5 seconds.
- Specify MAXWAIT(20,ABORT) to wait up to 20 seconds, set return code 8, and terminate processing if the command does not complete in 20 seconds.

## Sample HKTSTSTP job

Copy the following sample HKTSTSTP job and modify the JCL appropriately for your environment and requirements.

```
//START EXEC PGM=FPQINIO$,REGION=0M,  
//      PARM='BPEINIT=FPQBINIO,XCFGROUP=SRVRNAM'  
//STEPLIB  DD  DISP=SHR,DSN=HLQ1.SHKTLOAD  
//SYSPRINT DD  SYSOUT=*<br>  
//SYSIN DD *  
START REPOSITORY(HKT_00000000) MAXWAIT(5,CONTINUE)  
/*  
//STOP EXEC PGM=FPQINIO$,REGION=0M,  
//      PARM='BPEINIT=FPQBINIO,XCFGROUP=SRVRNAM'  
//STEPLIB  DD  DISP=SHR,DSN=HLQ1.SHKTLOAD  
//SYSPRINT DD  SYSOUT=*<br>  
//SYSIN DD *
```

```
STOP  REPOSITORY(HKT_00000000) MAXWAIT(5,CONTINUE)
/*
```

### Example job STOP output

```
STOP  REPOSITORY(HKT_00000000)
FPQ4750I STOP command processed successfully
```

### Example server STOP output

```
FPQ2013I - Closing repository: HKT_00000000
FPQ2015I - Repository stopped: HKT_00000000
FPQ2017I - Repository closed: HKT_00000000
```

### Example job START output

```
START REPOSITORY(HKT_00000000)
FPQ4750I START command processed successfully
```

### Example server START output

```
FPQ2014I - Repository start request initiated: HKT_00000000
FPQ2012I - Opening repository: HKT_00000000
FPQ2016I - Repository opened: HKT_00000000
```

## Setting the repository autoOPEN condition

You can set the autoOPEN condition for the IMS Tools Knowledge Base repositories.

### About this task

The autoOPEN condition indicates whether the repository data sets are allocated and opened when the repository is started or when the repository is first accessed by a transaction.

When the autoOPEN condition is set to N, the IMS Tools Knowledge Base server startup can complete sooner.

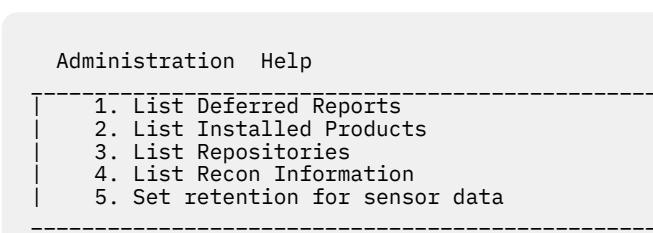
The initial autoOPEN value for a repository is set when you first define (add) the repository to the IMS Tools Knowledge Base environment (using member HKTDFREP).

### Procedure

To set the repository autoOPEN condition, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:



```
Administration  Help
1. List Deferred Reports
2. List Installed Products
3. List Repositories
4. List Recon Information
5. Set retention for sensor data
```

Figure 10. Administration menu options

2. Select option 3 (**List Repositories**). Press Enter.

The **Repositories** panel is displayed.

For example:

```
Commands Help
-----
SERVER: FPQRDP01          Repositories          Row 1 to 5 of 5
Command ==>

Enter a command, select a row action or press End to exit.

Row actions: I - Information S - Start  P - STOP  D -Disconnect  A - AutoOPEN

Action  Prefix  Name    Type    Stopped  Auto
  BSN_   SENSOR  SENSOR  N       Y
  HKT_   INPUT   INPUT   N       Y
  HKT_   00000000 OUTPUT  N       Y
  HKT_   REGISTRY REGISTRY N       Y
  IAV_   AUTODIR AUTODIR N       Y
*****
***** Bottom of data *****
```

Figure 11. Repositories panel

The autoOPEN condition for each repository is indicated in the **Auto** column:

- If the value for **Auto** is Y, the repository data sets are allocated when the IMS Tools Knowledge Base server is started.
- If the value for **Auto** is N, the repository data sets are allocated when the repository is first accessed by a transaction.

3. To change the autoOPEN condition for a repository, the repository must be in the STOPPED state. If it is started, first stop the repository using the **STOP** row action (P). Press Enter.

The value for **Stopped** is immediately changed to Y.

4. Use the **autoOPEN** row action (A) to change the setting for that repository. Press Enter.

The value for **Auto** is immediately changed.

5. Use the **Start** row action (S) to restart the repository. Press Enter.

The value for **Stopped** is immediately changed to N.

## Setting the retention period for the Sensor Data repository

This section describes setting the data retention value (DAYS parameter in the INITNSR control statement of HKTRJINT) through the administration user interface.

### About this task

The data retention value specifies the minimum number of days that the Sensor Data repository retains sensor data and utility history data.

Sensor data is data collected by an IMS Tools product when it measures the condition (or state) of one or more databases. This sensor data is information captured at an instance in time that represents the condition, or state, of one or more databases. The data can be used for later analysis and policy evaluation.

Policies consist of a set of rules that each define threshold values for specific types of database conditions. The policy service mechanism evaluates these threshold values against the actual data values that an IMS Tools product collects and stores in the IMS Tools Knowledge Base Sensor Data repository.

The data is stored in the Sensor Data repository as records made up of data element values. The data record is stored in a well-understood and flexible format that allows its use years and multiple product releases later in time. The data and its format is understandable between products and releases to ensure reliable functionality.

Utility history data (job information and statistics) of some IMS Tools products are also stored in the Sensor Data repository.

You can control the length of time that data remains stored in the Sensor Data repository. When the Sensor Data repository is initially created, a default value is set for the DAYS parameter in the INITNSR control statement of member HKTJINT. You can modify this parameter at a later time using the **Administration > Set retention for sensor data** drop-down menu of the IMS Tools Knowledge Base report service user interface.

*Table 10. DAYS parameter in the INITNSR control statement of member HKTJINT*

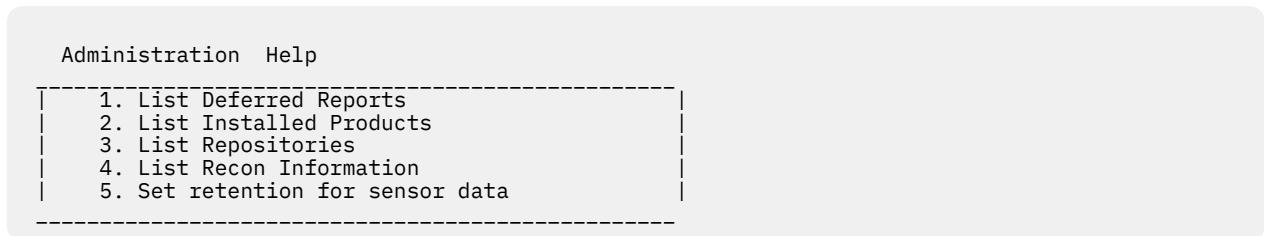
Parameter	Description
DAYS	<p>The DAYS parameter specifies the minimum number of days that sensor data and utility history data is retained in the Sensor Data repository. This parameter is optional. The valid range of values is 1 - 32767.</p> <p>If the Sensor Data repository is being initialized for the first time, the default value of the DAYS parameter is 365. If initialization was completed previously and the DAYS parameter is not coded, the existing value is used to reset the retention period.</p> <p>To determine an appropriate value, consider the type and extent of analysis of sensor data you might want to perform. For instance, you might be interested in performing trend analysis or comparative analysis.</p>

## Procedure

To set the retention days for data that is stored in the Sensor Data repository, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

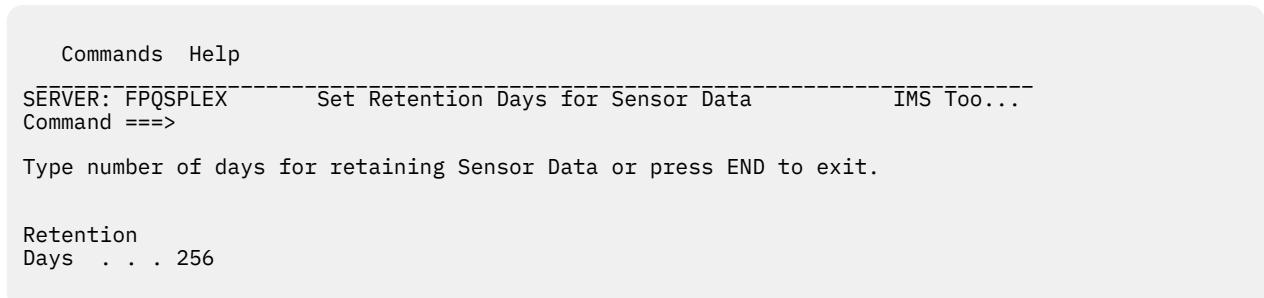


*Figure 12. Administration menu options*

2. Select option 5 (**Set retention for sensor data**). Press Enter.

The **Set Retention Days for Sensor Data** panel is displayed.

For example:



*Figure 13. Set Retention Days for Sensor Data panel*

3. Type the new value for retention Days, and press Enter.

The valid range of values is 1 - 32767.

# Chapter 4. Implementing a new Output repository

You can add a new Output repository to support your IMS Tools Knowledge Base information management environment.

The initial installation of IMS Tools Knowledge Base provides a single Output repository (00000000). All reports that are written to IMS Tools Knowledge Base are directed to this one set of VSAM data sets.

You might want to implement additional Output repositories to reduce the size of the standard Output repository or perhaps to reduce the frequency with which the standard Output repository requires reorganization.

Implementing an additional Output repository requires the following three procedures:

## Topics:

- [“Defining a new Output repository” on page 29](#)
- [“Connecting an additional Output repository” on page 31](#)
- [“Changing the repository specification” on page 33](#)
- [“Disconnecting an Output repository” on page 34](#)

## Defining a new Output repository

The first step to implementing a new Output repository is to define the new repository.

### About this task

To define a new Output repository, you must define a set of four VSAM clusters by creating the appropriate control statements.

### Procedure

To define a new Output repository, complete the following steps:

1. Copy member HKTDFREP in the *hlq.SHKTSAMP* data set.
2. Delete all of the statements that do not pertain to the four Output repository clusters. The four Output repository clusters include:

00000000.PRID  
00000000.PRMD  
00000000.SRID  
00000000.SRMD

3. Change the string 00000000 to the new repository name.

Repository names must be 8 characters long.

Output repository names must start with an *O* and the subsequent characters must be numeric. For example: O1234567

4. Change the volume and cylinder statements.

For more information, see the topic “Defining (allocating) repository data sets” in *IMS Tools Base Configuration Guide*.

5. Submit the job and ensure you get a return code=0.

### Results

If you are using SAF security, you must grant the appropriate access to users.

For more information, see the topic "Defining (allocating) repository data sets" in *IMS Tools Base Configuration Guide*.

### Example HKTDFREP JOB

The following example shows a modified version of HKTDFREP that rebuilds the Output repository:

```
//ALLOCAT1 EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN   DD *
/* DELETE EXISTING REPOSITORIES BEFORE RE-DEFINING */
DELETE HLQ2.SVRNAME.00000001.PRID CLUSTER
DELETE HLQ2.SVRNAME.00000001.SRID CLUSTER
DELETE HLQ2.SVRNAME.00000001.PRMD CLUSTER
DELETE HLQ2.SVRNAME.00000001.SRMD CLUSTER
/****************************************
/* The following spare data sets are optional and can be
/* deleted if you do not want to include SPARE data sets.
/****************************************
DELETE HLQ2.SVRNAME.00000001.SPRID CLUSTER
DELETE HLQ2.SVRNAME.00000001.SPRMD CLUSTER
SET MAXCC = 0 /* RESET CC IF DELETE RETURNED A CC > 0 */
/* DEFINE FOR PRIMARY OUT REP. RID (INDEX) CLUSTER REPOSITORY */
DEFINE CLUSTER(NAME( HLQ2.SVRNAME.00000001.PRID ) -
               VOL(VOLUM1) /*USER MUST CHANGE*/
               REUSE
               INDEXED
               KEYS(128 0)
               CYLINDERS(10 10) /*USER MUST CALCULATE*/
               SHAREOPTIONS (2 3)
               FREESPACE (10 10)
               RECORDSIZE (282 282)
               CONTROLINTERVALSIZE (8192)
               )
               INDEX (NAME( HLQ2.SVRNAME.00000001.PRID.INDEX ) ) -
               DATA (NAME( HLQ2.SVRNAME.00000001.PRID.DATA ) )
/* DEFINE FOR SECONDARY OUT REP. RID (INDEX) CLUSTER REPOSITORY */
DEFINE CLUSTER(NAME( HLQ2.SVRNAME.00000001.SRID ) -
               VOL(VOLUM2) /*USER MUST CHANGE*/
               REUSE
               INDEXED
               KEYS(128 0)
               CYLINDERS(10 10) /*USER MUST CALCULATE*/
               SHAREOPTIONS (2 3)
               FREESPACE (10 10)
               RECORDSIZE (282 282)
               CONTROLINTERVALSIZE (8192)
               )
               INDEX (NAME( HLQ2.SVRNAME.00000001.SRID.INDEX ) ) -
               DATA (NAME( HLQ2.SVRNAME.00000001.SRID.DATA ) )
/****************************************
/* The following OUTPUT SPARE RID is optional.
/****************************************
/* DEFINE FOR SPARE OUT REP. RID (INDEX) CLUSTER REPOSITORY */
DEFINE CLUSTER(NAME( HLQ2.SVRNAME.00000001.SPRID ) -
               VOL(VOLUM3) /*USER MUST CHANGE*/
               REUSE
               INDEXED
               KEYS(128 0)
               CYLINDERS(10 10) /*USER MUST CALCULATE*/
               SHAREOPTIONS (2 3)
               FREESPACE (10 10)
               RECORDSIZE (282 282)
               CONTROLINTERVALSIZE (8192)
               )
               INDEX (NAME( HLQ2.SVRNAME.00000001.SPRID.INDEX ) ) -
               DATA (NAME( HLQ2.SVRNAME.00000001.SPRID.DATA ) )
/* DEFINE FOR PRIMARY OUT REP. RMD (MEMBER) CLUSTER REPOSITORY */
DEFINE CLUSTER(NAME( HLQ2.SVRNAME.00000001.PRMD ) -
               VOL(VOLUM1) /*USER MUST CHANGE*/
               REUSE
               INDEXED
               KEYS(12 0)
               CYLINDERS(50 50) /*USER MUST CALCULATE*/
               SHAREOPTIONS (2 3)
               FREESPACE(00 20)
               RECORDSIZE (8185 8185)
               CONTROLINTERVALSIZE (8192)
               )
```

```

INDEX (NAME( HLQ2.SVRNAME.00000001.PRMD.INDEX ) )      -
  DATA (NAME( HLQ2.SVRNAME.00000001.PRMD.DATA ) )      -
/* DEFINE FOR SECONDARY OUT REP. RMD (MEMBER) CLUSTER REPOSITORY */
DEFINE CLUSTER(NAME( HLQ2.SVRNAME.00000001.SRMD )      -
  VOL(VOLUME2) /*USER MUST CHANGE*/      -
  REUSE      -
  INDEXED      -
  KEYS(12 0)      -
  CYLINDERS(50 50) /*USER MUST CALCULATE*/      -
  SHAREOPTIONS (2 3)      -
  FREESPACE(00 20)      -
  RECORDSIZE (8185 8185)      -
  CONTROLINTERVALSIZE (8192)
)
INDEX (NAME( HLQ2.SVRNAME.00000001.SRMD.INDEX ) )      -
  DATA (NAME( HLQ2.SVRNAME.00000001.SRMD.DATA ) )      -
*****  

/* The following OUTPUT SPARE RMD is optional.
*****  

/* DEFINE FOR SPARE OUT REP. RMD (MEMBER) CLUSTER REPOSITORY */

DEFINE CLUSTER(NAME( HLQ2.SVRNAME.00000001.SPRMD )      -
  VOL(VOLUME3) /*USER MUST CHANGE*/      -
  REUSE      -
  INDEXED      -
  KEYS(12 0)      -
  CYLINDERS(50 50) /*USER MUST CALCULATE*/      -
  SHAREOPTIONS (2 3)      -
  FREESPACE(00 20)      -
  RECORDSIZE (8185 8185)      -
  CONTROLINTERVALSIZE (8192)
)
INDEX (NAME( HLQ2.SVRNAME.00000001.SPRMD.INDEX ) )      -
  DATA (NAME( HLQ2.SVRNAME.00000001.SPRMD.DATA ) )      -

```

## Connecting an additional Output repository

The second step to implementing a new Output repository is to connect the repository to the IMS Tools Knowledge Base information management environment.

### About this task

An Output repository must be defined to the IMS Tools Knowledge Base environment before you can perform the connect procedure.

If the VSAM cluster data sets are not pre-allocated for this new repository, the **Start** repository row action (S) will fail.

### Procedure

To connect an additional Output repository, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:



Figure 14. Administration menu options

2. Select option 3 (**List Repositories**). Press Enter.

The **Repositories** panel is displayed.

For example:

```

Commands Help
-----
SERVER: FPQRDP01           Repositories           Row 1 to 5 of 5
Command ==>

Enter a command, select a row action or press End to exit.

Row actions: I - Information S - Start P - STOP D -Disconnect A - AutoOPEN

Action  Prefix  Name    Type    Stopped  Auto
      BSN_   SENSOR  SENSOR   N       Y
      HKT_   INPUT   INPUT   N       Y
      HKT_   00000000 OUTPUT  N       Y
      HKT_   REGISTRY REGISTRY N       Y
      IAV_   AUTODIR AUTODIR N       Y
*****
***** Bottom of data *****

```

Figure 15. *Repositories panel*

3. From the **Commands** menu, select option 1 (**Connect Output repository**).

For example:

```

Commands Help
| 1 1. Connect Output repository |
-----
```

Figure 16. *Commands menu options*

4. Press Enter.

The **Connect Repository** panel is displayed:

```

Help
-----
SERVER: FPQRDP01           Connect Repository      Ver 1.7.0
Command ==>                   Scroll ==> PAGE

Fill in information and press ENTER to continue or press CANCEL to exit.

Prefix . . .     Name . . .     Type . . : OUTPUT     Auto . . Y

Dataset Names. These VSAM datasets need to be
preallocated before this new repository can be
used. In particular the row actions A
and S will not function on the List
Repositories panel.

Primary Index . . .
Primary Data . . .
Secondary Index . . .
Secondary Data . . .
Spare Index . . .
Spare Data . . .
```

Figure 17. *Connect Repository panel*

5. Enter the appropriate values for the new Output repository as described in the following table:

Table 11. *Connect Repository panel field descriptions*

Field	Description
Prefix	The product prefix for the Output repository. The Output repository prefix must be HKT_.
Name	The name of the Output repository. Names must be eight characters long. Output repository names must start with an O and the subsequent characters must be numeric. For example: O1234567

Table 11. Connect Repository panel field descriptions (continued)

Field	Description
Type	Defaults to OUTPUT.
Auto	Whether the repository is started when the IMS Tools Knowledge Base server is started (Y) or upon the first reference to the repository (N).
Data Set Names	<p>The name of the four data sets you created for this repository.</p> <p>These data set names must not duplicate any other repository data set names.</p>

6. Press Enter.

The **Connect Repository** panel is refreshed with no values showing.

7. Press End (PF3).

The **Repositories** panel is displayed with the newly connected Output repository listed.

8. Use the **Start** row action (S) to start the new repository.

The value for **Stopped** is immediately changed to N.

**Note:** If the value does not change to N, or it changes to N and then Y, check the job log for repository allocation or open error messages.

## Changing the repository specification

The third step to implementing a new Output repository is to change the repository specification in one or more registered products.

### About this task

When products are registered to, by default, the standard Output repository (00000000) is designated. All reports for this product are written to this standard Output repository.

You can change the Output repository designation for any product to the newly defined repository. Once the repository designation is changed, all reports for that product from that point forward will be written to the new repository.

### Procedure

To change the repository specification in one or more products, complete the following steps:

1. Access the **Administration** menu from the main menu panel.

For example:



Figure 18. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

```

View Help
----- SERVER: FPQRDP01 ----- Installed Products List ----- Row 1 to 2 of 2
Command ==>                               Scroll ==> PAGE

Select a row action or press End to exit.

Row Actions: S Subs List RP Remove Product RR Remove Release RS Remove
Subs

Act Product Name          Product Release
-- IMS High Performance Pointer Checker 030100
-- IMS High Performance Unload        010200
***** Bottom of data *****

```

Figure 19. Installed Products List panel

3. Use the **Subscriptions (Subs)** List row action (S) for the appropriate product to list all report subscriptions defined to the product. Press Enter.

The **Report Subscription List** panel is displayed.

For example:

```

Global Actions View Help
----- SERVER: FPQRDP01 ----- Report Subscriptions List ----- Row 1 to 16 of 20
Command ==>                               Scroll ==> PAGE

Select a row action or press End to exit.

Row actions: U Update

Product Name . . : IMS High Performance Pointer Checker
Product Release : 030100

----- Retention -----
Act Report Title      Days  Versions Default Record Repository
-- ** PRODUCT DEFAULTS **  5      1        Y        Y        00000000
-- PC-BIT MAP DISPLAY   5      1        Y        Y        N/A
-- PC-BLOCK MAP AND DUMP 5      1        Y        Y        N/A
-- PC-DB RECORD DIST    5      1        Y        Y        N/A
-- PC-DB STAT            5      1        Y        Y        N/A
-- PC-ENVIRONMENT        5      1        Y        Y        N/A

```

Figure 20. Report Subscriptions List panel

The first row contains the product defaults for report retention, report recording, and the designated Output repository for storing reports.

4. Use the **Update** row action (U) on the PRODUCT DEFAULTS row and replace the standard repository name (00000000) with the newly defined repository. Press Enter.

## Disconnecting an Output repository

The disconnect repository operation is rarely required and is available to support the management of multiple Output repositories.

### About this task

Disconnecting an Output repository removes knowledge of the existence of that repository from the IMS Tools Knowledge Base server. The repository is no longer available for storing reports. The repository itself is not deleted and can be reconnected.

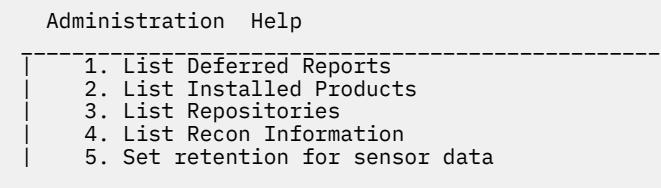
You should never disconnect the Input and Registry repositories.

## Procedure

To disconnect an Output repository, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

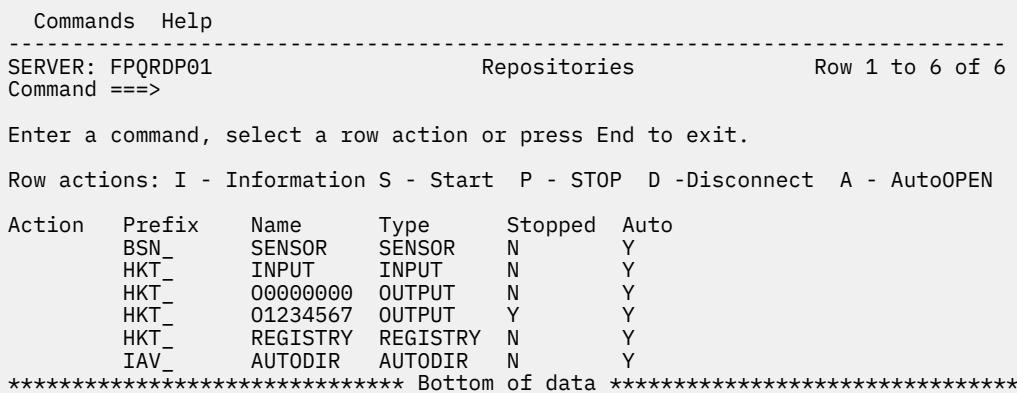


*Figure 21. Administration menu options*

2. Select option 3 (**List Repositories**). Press Enter.

The **Repositories** panel is displayed.

For example (2 Output repositories are listed):



*Figure 22. Repositories panel*

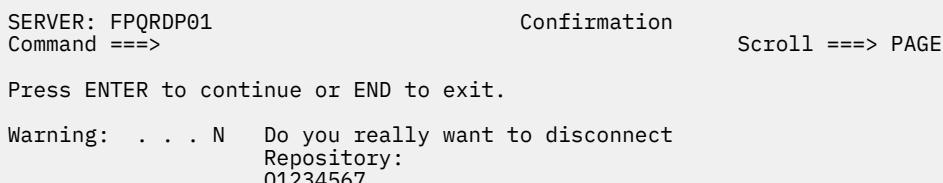
Normally you should see a listing for the Input, Output, and Registry repositories.

You can connect additional Output repositories to your information management environment. The **Repositories** panel list will show any additional Output repositories that you created.

3. Use the **Disconnect** row action (D) to disconnect the appropriate Output repository. Press Enter.

A **Confirmation** message is displayed.

For example:



*Figure 23. Confirmation message*

4. To disconnect the repository, enter Y and press Enter.

The **Repositories** panel is refreshed and the disconnected repository is no longer listed.



# Chapter 5. Maintaining repository data sets

The IMS Tools Knowledge Base repositories are designed to be fault tolerant.

Each repository is implemented with four data sets, two primary and two secondary:

- Primary Repository Index (RID)
- Primary Repository Member Data (RMD)
- Secondary Repository Index (RID)
- Secondary Repository Member Data (RMD)

During normal repository operation, updates are made to the primary set of data sets first. Only after the updates are committed are the same updates applied to the secondary set of data sets. A failure of one set of data sets can always be recovered from the other set.

You can decrease the possibility of a complete loss of data by placing the primary and secondary data sets on separate devices. A failure of one set of data sets can always be automatically recovered from the other set.

## Topics:

- [“Backing up repository data sets” on page 37](#)
- [“Recovering repository data sets” on page 39](#)
- [“Reorganizing repository data sets” on page 40](#)
- [“Resizing repository data sets” on page 41](#)

## Backing up repository data sets

The purpose of backing up a repository is to allow you to recover data in the event that the repository suffers a logical failure or if there is a physical loss of both the primary and secondary repository data sets.

### Repository backup process

You can use any backup utility of your choosing to back up the repository data sets. The repository must be stopped or the server must be down while you are performing the backup to ensure a valid copy is made.

You should always copy all four data sets for each repository (the two primary data sets and the two secondary data sets). If you back up only the primary or only the secondary data sets and not both, it is possible that you are backing up a data set in an error state.

Once the data set is backed up you can restart the repository or server.

The following example job uses the REPRO utility to back up repositories. Member HKTBAKUP can be found in the *hlq.SHKTSAMP* library file.

```
/* =====
/*          BACKUP the repository
/* =====
//REPRO    EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//BAKUPRID DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.PRID,
//             DISP=(NEW,CATLG),DCB=BLKSIZE=24576,
//             UNIT=SYSALLDA,VOL=SER=VOLUME1, ** USER MUST CHANGE **
//             SPACE=(CYL,(1,1)) ** CHANGE TO SIZE NECESSARY **
//BAKUPRMD DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.PRMD,
//             DISP=(NEW,CATLG),DCB=BLKSIZE=24576,
//             UNIT=SYSALLDA,VOL=SER=VOLUME1, ** USER MUST CHANGE **
//             SPACE=(CYL,(10,10)) ** CHANGE TO SIZE NECESSARY **
//BAKUSRID DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.SRID,
//             DISP=(NEW,CATLG),DCB=BLKSIZE=24576,
```

```

//           UNIT=SYSALLDA, VOL=SER=VOLUME1, ** USER MUST CHANGE **
//           SPACE=(CYL,(1,1)) ** CHANGE TO SIZE NECESSARY **
//BAKUSRMD DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.SRMD,
//           DISP=(NEW,CATLG),DCB=BLKSIZE=24576,
//           UNIT=SYSALLDA, VOL=SER=VOLUME1, ** USER MUST CHANGE **
//           SPACE=(CYL,(10,10)) ** CHANGE TO SIZE NECESSARY **
//SYSIN    DD   *
/* BACKUP THE PRID (INDEX DATA) OF THE STOPPED REPOSITORY */
REPRO INDATASET(HLQ2.SERVER.REPOSIT.PRID) -
        OUTFILE(BAKUPRID)
/* BACKUP THE PRMD (MEMBER DATA) OF THE STOPPED REPOSITORY */
REPRO INDATASET(HLQ2.SERVER.REPOSIT.PRMD) -
        OUTFILE(BAKUPRMD)
/* BACKUP THE SRID (INDEX DATA) OF THE STOPPED REPOSITORY */
REPRO INDATASET(HLQ2.SERVER.REPOSIT.SRID) -
        OUTFILE(BAKUSRID)
/* BACKUP THE SRMD (MEMBER DATA) OF THE STOPPED REPOSITORY */
REPRO INDATASET(HLQ2.SERVER.REPOSIT.SRMD) -
        OUTFILE(BAKUSRMD)

```

## Determining the frequency of backing up repositories

Each of the IMS Tools Knowledge Base repositories have their own characteristics and purpose. The following information discusses the difference in backup needs among the repositories:

### Catalog repository

The only non-recoverable information recorded in the Catalog repository is the definitions of the other repositories. The Catalog repository is updated frequently to reflect the current state of the repositories. However, a loss of this information is not significant.

Ensure that you back up the repository after any product configuration and after adding more Output repositories. Otherwise, only occasional backups are necessary.

### Input repository

The Input repository is updated with information about your environment (such as RECON environment definitions) and Policy Services data (policies, rules, directory entries, and notification lists).

Weekly backups of this repository are probably sufficient. For best results, coordinate Input repository backups with Registry repository backups.

### Registry repository

The Registry repository is updated whenever you register products or change product options using the ISPF Administration menu options.

Weekly backups of this repository are sufficient. For best results, coordinate Registry repository backups with Input repository backups.

### Output repository

The Output repository is updated whenever a report is recorded.

Weekly backups of this repository are probably sufficient. Always consider the importance of reports you are storing when deciding on the frequency of backups for this repository.

### Sensor Data repository

The Sensor Data repository is updated whenever statistics (sensor data) are recorded.

Weekly backups of this repository are probably sufficient.

### Autonomics Director repository

The Autonomics Director repository is updated whenever information is added or changed for monitored databases, user groups, period definitions, evaluations, and database reorganizations.

Weekly backups of this repository are recommended, and additionally after any major changes to the monitor list, user groups, and period definitions.

# Recovering repository data sets

Performing a repository recovery from your backup data sets should be a rare occurrence.

## Considerations for recovering a repository

The probable reasons for requiring the recovery of a repository from backups are catastrophic hardware failure or accidental deletion of both the primary and secondary repository data sets.

In other cases, it is possible that the repository can be recovered automatically by the server without any loss of data. For example, if a device failure occurs during the update process, the repository is marked in error and is stopped. In this situation, the following message is issued:

```
FPQ00271 - Error during phase n of the repository update process
```

Correct whatever immediate problem is reported on the IMS Tools Knowledge Base server job log and restart the repository using the **Start** row action from the **List Repositories** option of the **ISPF Administration** menu.

If the update of the primary data sets fails, restarting the repository will automatically recover the primary data sets by copying the data from the secondary data sets. Only the unit-of-work that was being written at the time of the failure is lost.

If the update to the secondary data sets fails, restarting the repository will automatically recover the secondary data sets by copying the data from the primary data sets. There will be no data loss.

Observe the server messages and determine if recovery from your backup data sets is required.

**Note:** If the error is an out-of-space condition, you should reorganize the data sets and add space rather than simply restoring the repository. In this case, consider making use of SMS space management capabilities.

## Repository recovery process

Repository recovery is performed from your last backups. Use the appropriate utility for the backup method you used.

If you are relocating the data sets, ensure that the primary and secondary data sets are on separate devices.

Once the data set is recovered you can start the repository.

The following example job uses the REPRO utility to recover a repository from the backup copy. Member HKTREORG can be found in *hlq.SHKTSAMP*.

```
//REORG/RESTORE REPOSITORY DATASETS
//REORG EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//BAKUPRID DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.PRID,
//          DISP=OLD
//BAKUPRMD DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.PRMD,
//          DISP=OLD
//BAKUSRID DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.SRID,
//          DISP=OLD
//BAKUSRMD DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.SRMD,
//          DISP=OLD
//OUTPRID DD DSN=HLQ2.SERVER.REPOSIT.PRID,DISP=OLD PRIMARY INDEX
//OUTPRMD DD DSN=HLQ2.SERVER.REPOSIT.PRMD,DISP=OLD PRIMARY MEMBER
//OUTSRID DD DSN=HLQ2.SERVER.REPOSIT.SRID,DISP=OLD SECOND INDEX
//OUTSRMD DD DSN=HLQ2.SERVER.REPOSIT.SRMD,DISP=OLD SECOND MEMBER
//SYSIN DD *
/* REORG/RESTORE PRIMARY RID(INDEX DATA) OF THE STOPPED REPOSITORY*/
  REPRO INFIL( BAKUPRID)   -
  OUTFILE(OUTPRID)  REUSE
/* REORG/RESTORE PRIMARY RMD(MEMBER DATA) OF THE STOPPED REPOSITORY*/
  REPRO INFIL( BAKUPRMD)   -
```

```

        OUTFILE(OUTPRMD) REUSE
/*
 * REORG/RESTORE SECOND. RID(INDEX DATA) OF THE STOPPED REPOSITORY*/
REPRO INFILE(BAKUSRID) -
        OUTFILE(OUTSRID) REUSE

/*
 * REORG/RESTORE SECOND. RMD(MEMBER DATA) OF THE STOPPED REPOSITORY*/
REPRO INFILE(BAKUSRMD) -
        OUTFILE(OUTSRMD) REUSE

```

## Reorganizing repository data sets

Repositories should be reorganized as needed to reclaim space and improve data clustering.

### Considerations for reorganizing a repository

Consider the following information about repositories when you determining the need for reorganizing the repository data sets:

- The Catalog and Registry repositories rarely require reorganization.
- The Output repositories might need frequent reorganization depending upon the rate at which you are recording reports.
- The Input repository might require reorganization after changes are made to Policy Services data (policies, rules, directory entries, notification lists).
- The Sensor Data repository might need frequent reorganization depending upon the rate at which you are recording statistics (sensor data).

When the usage of IMS Tools Knowledge Base grows (for example, the addition of more enabled products), you might also have to expand the size of the repositories.

### Repository reorganization process

The repository must be stopped or the server must be down while you reorganize the repository to ensure a valid copy is made.

You must first reorganize all four of the repository data sets to a sequential data set and then restore them back to the VSAM clusters.

Once the data set is reorganized you can restart the repository or server.

Refer to the previous backup example for the job to reorganize and restore the repositories to a sequential data set.

The following job resets the VSAM data sets and copies the data from the sequential files. Member HKTREORG can be found in *hlq.SHKTSAMP*.

```

//*-=====
//* REORG/RESTORE REPOSITORY DATASETS
//*-=====
//REORG EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//BAKUPRID DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.PRID,
//           DISP=OLD
//BAKUPRMD DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.PRMD,
//           DISP=OLD
//BAKUSRID DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.SRID,
//           DISP=OLD
//BAKUSRMD DD DSN=HLQ3.BACKUP.SERVER.REPOSIT.SRMD,
//           DISP=OLD
//OUTPRID DD DSN=HLQ2.SERVER.REPOSIT.PRID,DISP=OLD PRIMARY INDEX
//OUTPRMD DD DSN=HLQ2.SERVER.REPOSIT.PRMD,DISP=OLD PRIMARY MEMBER
//OUTSRID DD DSN=HLQ2.SERVER.REPOSIT.SRID,DISP=OLD SECOND INDEX
//OUTSRMD DD DSN=HLQ2.SERVER.REPOSIT.SRMD,DISP=OLD SECOND MEMBER
//SYSIN DD *
/* REORG/RESTORE PRIMARY RID(INDEX DATA) OF THE STOPPED REPOSITORY*/
REPRO INFILE(BAKUPRID) -
        OUTFILE(OUTPRID) REUSE

```

```
/* REORG/RESTORE PRIMARY RMD(MEMBER DATA) OF THE STOPPED REPOSITORY*/
REPRO INFILE(BAKUPRMD)
        -
        OUTFILE(OUTPRMD) REUSE

/* REORG/RESTORE SECOND. RID(INDEX DATA) OF THE STOPPED REPOSITORY*/
REPRO INFILE(BAKUSRID)
        -
        OUTFILE(OUTSRID) REUSE

/* REORG/RESTORE SECOND. RMD(MEMBER DATA) OF THE STOPPED REPOSITORY*/
REPRO INFILE(BAKUSRMD)
        -
        OUTFILE(OUTSRMD) REUSE
```

## Resizing repository data sets

---

The repository data sets are VSAM data sets and can be resized to accommodate the growth of the stored data.

Refer to the topic "Sizing your IMS Tools Knowledge Base repositories" in *IMS Tools Base Configuration Guide* for the specific repository that needs resizing.

Once you have determined the new size requirements, change the cluster definitions in HKTDFREP.

Then perform the following procedures:

1. Stop the repository.

For details, see [“Starting and stopping repositories \(ISPF\)” on page 21](#).

2. Unload the repository data set using your preferred method.

3. Delete the repository data set and define new clusters using the new sizes.

Use a modified copy of HKTDFREP that only deletes and defines the four clusters for the repository you are changing.

4. Reload the repository data set using your preferred method.

5. Start the repository.

For details, see [“Starting and stopping repositories \(ISPF\)” on page 21](#).

**Note:** It is important that you use a utility (such as REPRO) that unloads and reloads the data at a record level. Refer to job HKTBAKUP to unload and job HKTREORG to reload.



# Chapter 6. IMS Tools Knowledge Base server commands

IMS Tools Knowledge Base server commands are provided for repository administration tasks.

## Server operator commands

The Service Repository operator commands are invoked via the MVS **F (MODIFY)** command.

The general syntax is:

►— *server\_job\_name*, — *command parameter* —►

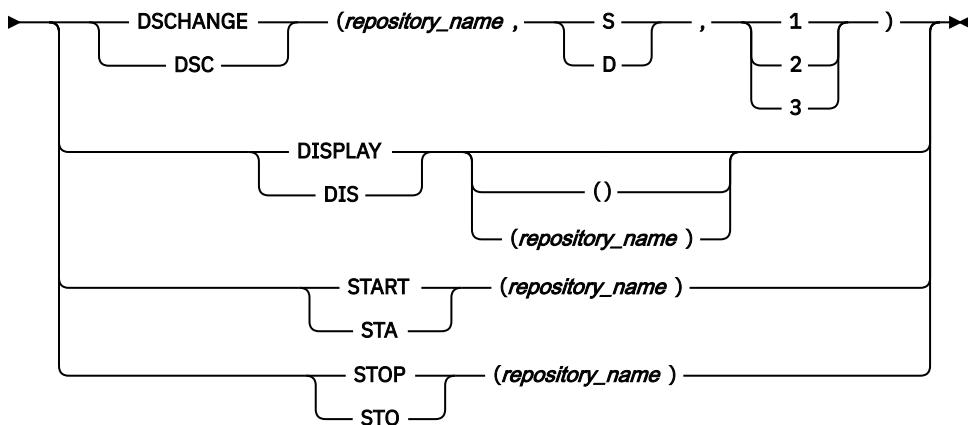
Subsections:

- [“ADMIN command” on page 43](#)
- [“AUDIT command” on page 46](#)
- [“DUMPSTATS command” on page 47](#)
- [“DUMPTTRACE command” on page 47](#)
- [“SHUTDOWN command” on page 48](#)

### ADMIN command

Performs repository administration for a selected subset of the administration tasks.

►— **F** — *server\_job\_name* — **ADMIN** —►



#### *repository\_name*

The name of the repository that contains the data sets to change, display, start, or stop. You cannot use CATALOG because this name is reserved.

The name of the repository is defined when you add the repositories to the IMS Tools Knowledge Base server.

#### **S | D**

The DSCHANGE action that is applied to the repository data sets specified in the RDS parameter:

##### **S**

Request a SPARE action for a RDS pair.

##### **D**

Request a DISCARD action for a RDS pair.

## 1 | 2 | 3

A number between 1 - 3 that indicates the Repository Data Set (RDS) pair that the requested DSCHANGE action is applied to.

### DSCHANGE

Changes the status of an RDS pair to either DISCARD or SPARE.

- If you run DISCARD against either COPY1 or COPY2, the repository must be stopped. Only use DISCARD with COPY1 or COPY2 to remove them from your system.
- If you run DISCARD against a SPARE RDS, it is not necessary for the repository to be stopped.
- The SPARE can only be run against a DISCARD data set pair where both of the data sets are empty.

Use this command sparingly.

#### Usage example:

In this example, there is a failure for the primary output repository data set COPY1 (HKT\_00000000). The system stopped the primary output repository data set COPY1, and copied the secondary output data set COPY2 to the SPARE output data set COPY3.

The ADMIN command DSCHANGE option is used to request that the output repository data set COPY1 (HKT\_00000000) is changed to DISCARD. The output data set COPY1 is changed to DISCARD because it is no longer available as the primary output repository data set. By changing to DISCARD, this allows a new output repository data set COPY1 to be allocated as the new SPARE.

Command input:

```
F PS13SRVJ,ADMIN DSCHANGE(HKT_00000000,D,1)
```

Command output:

```
BPE0032I ADMIN COMMAND COMPLETED FPQ
FPQ0037I - RDS1 status has been changed to DISCARD.
Repository...: HKT_00000000 FPQ
```

The ADMIN command DSCHANGE option requests that a output repository data set COPY1 (HKT\_00000000) is added as a new output repository data set COPY1 (HKT\_00000000).

Command input:

```
F PS13SRVJ,ADMIN DSCHANGE(HKT_00000000,S,1)
```

Command output:

```
BPE0032I ADMIN COMMAND COMPLETED FPQ
FPQ0037I - RDS1 status has been changed to SPARE.
Repository...: HKT_00000000 FPQ
```

### DISPLAY/DIS

Lists all repositories defined in the catalog (similar to the LIST batch administration command).

Lists the details of a specified repository (similar to the LIST REPOSITORY batch administration command).

#### Usage example:

The ADMIN command DISPLAY option with and without () is issued to display all of the repositories defined in the catalog that are available to the server.

Command input:

```
F PS13SRVJ,ADMIN DISPLAY
```

or

```
F PS13SRVJ,ADMIN DISPLAY()
```

Command output:

```
BPE0032I ADMIN DIS COMMAND COMPLETED FPQ
FPQ2102I - HKT_REGISTRY
2023/01/13 USRT013 COPY1    COPY2    SPARE    FPQ      CLOSED
FPQ2102I - HKT_00000000
2023/01/13 USRT013 COPY1    COPY2    SPARE    FPQ      CLOSED
FPQ2102I - HKT_INPUT
2023/01/13 USRT013 COPY1    COPY2    SPARE    FPQ      CLOSED
FPQ2102I - BSN_SENSOR
2023/01/13 USRT013 COPY1    COPY2    SPARE    FPQ      CLOSED
```

The ADMIN command DISPLAY option using repository name HKT\_INPUT displays the details of the INPUT repository.

Command input:

```
F PS13SRVJ,ADMIN DISPLAY(HKT_INPUT)
```

Command output:

```
BPE0032I ADMIN COMMAND COMPLETED FPQ
FPQ2100I - ADMIN DISPLAY repository HKT_INPUT
- Last updated date/time : 2023/01/13 17:56:37  USER000
- Status . . . . . : CLOSED
- Auto-open . . . . . : NO
- Security Class . . . . . : NOT DEFINED FPQ
FPQ2101I - ADMIN DISPLAY repository RDS1:
- Index (RID) . . : IMSTOOL.PSS1.PS13SRVJ.INPUT.PRID
- Member (RMD) . . : IMSTOOL.PSS1.PS13SRVJ.INPUT.PRMD
- Status . . . . : COPY1  FPQ
FPQ2101I - ADMIN DISPLAY repository RDS2:
- Index (RID) . . : IMSTOOL.PSS1.PS13SRVJ.INPUT.SRID
- Member (RMD) . . : IMSTOOL.PSS1.PS13SRVJ.INPUT.SRMD
- Status . . . . : COPY2  FPQ
FPQ2101I - ADMIN DISPLAY repository RDS3:
- Index (RID) . . : IMSTOOL.PSS1.PS13SRVJ.INPUT.ARID
- Member (RMD) . . : IMSTOOL.PSS1.PS13SRVJ.INPUT.ARMD
- Status . . . . : SPARE  FPQ
```

## START/STA

Starts a repository. This command is useful if the requested repository data set has not been started previously.

### Usage example:

Command input:

```
F PS13SRVJ,ADMIN START(HKT_00000000)
```

Command output:

```
FPQ2014I - Repository start request initiated: HKT_00000000 FPQ
BPE0032I ADMIN COMMAND COMPLETED FPQ
FPQ2021I - Repository started: HKT_00000000
```

## STOP/STO

Stops a repository. If you STOP a repository data set, it causes errors to any client attempting to retrieve data from, or put data into, that repository. Be very careful when stopping repository data sets.

### Usage example:

Command input:

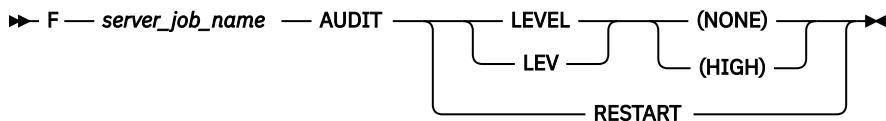
```
F PS13SRVJ,ADMIN STOP(HKT_00000000)
```

Command output:

```
FPQ2020I - Repository stop request initiated: HKT_00000000 FPQ
BPE0032I ADMIN COMMAND COMPLETED FPQ
FPQ2015I - Repository stopped: HKT_00000000 FPQ
```

## AUDIT command

Dynamically changes the auditing level from that set in the AUDIT\_LEVEL configuration parameter.



### LEVEL/LVL

Determines whether audit records are written to the log.

#### NONE

Audit records are not written.

##### Usage example:

The AUDIT command using option LEVEL and including parameter NONE, means that the audit records are not written to the log.

Command input:

```
F PS13SRVJ,AUDIT LEVEL(NONE)
```

Command output:

```
FPQ2103I - Audit level changed from HIGH to NONE FPQ
BPE0032I AUDIT COMMAND COMPLETED FPQ
```

or

```
FPQ2104I - Audit level unchanged from NONE FPQ
BPE0032I AUDIT COMMAND COMPLETED FPQ
```

#### HIGH

Audit records are written.

##### Usage example:

The AUDIT command using option LEVEL and including parameter HIGH, means that the audit records are written to the log.

Command input:

```
F PS13SRVJ,AUDIT LEVEL(HIGH)
```

Command output:

```
BPE0032I AUDIT COMMAND COMPLETED FPQ
FPQ2103I - Audit level changed from NONE to HIGH FPQ
```

or

```
FPQ2104I - Audit level unchanged from HIGH FPQ
BPE0032I AUDIT COMMAND COMPLETED FPQ
```

#### RESTART

Resumes audit logging after logging was suspended due to an outstanding error while connecting to or writing to the log stream.

### Usage example:

Command input:

```
F PS13SRVJ,AUDIT RESTART
```

Command output:

```
BPE0032I AUDIT RESTART COMMAND COMPLETED FPQ  
FPQ2032I - Audit logging resumed FPQ
```

## DUMPSTATS command

Prints repository server statistics to DD FPQPRINT.

► F — *server\_job\_name* — DUMPSTATS — NORESET — RESET — ►

### RESET

Resets the statistics counts to zero as they are externalized.

#### Usage example:

The DUMPSTATS command with option RESET prints repository server statistics to the DD FPQPRINT data set. The statistics counts are reset to zero.

Command input:

```
F PS13SRVJ,DUMPSTATS RESET
```

Command output:

```
BPE0032I DUMPSTATS RESET COMMAND COMPLETED FPQ
```

### NORESET

Leaves the count values as is.

#### Usage example:

The DUMPSTATS command prints repository server statistics to the DD FPQPRINT data set. The statistic counts are not reset to zero.

Command input:

```
F PS13SRVJ,DUMPSTATS
```

Command output:

```
BPE0032I DUMPSTATS COMMAND COMPLETED FPQ
```

The DUMPSTATS command with option NORESET prints repository server statistics to the DD FPQPRINT data set. The statistic counts are not reset to zero.

Command input:

```
F PS13SRVJ,DUMPSTATS NORESET
```

Command output:

```
BPE0032I DUMPSTATS NORESET COMMAND COMPLETED FPQ
```

## DUMPTRACE command

Prints dump diagnostics to DD FPQPRINT.

► F — *server\_job\_name* — DUMPTRACE ►

## Usage example:

The DUMPTRACE command dumps diagnostics to the DD FPQPRINT data set. For more information, see Chapter 23, “BPE diagnostic trace,” on page 299.

### Command input:

F PS13SRVJ,DUMPTRACE

## Command output:

BPE0032I DUMPTRACE COMMAND COMPLETED FPQ

## SHUTDOWN command

Stops the specified Service Repository server. The ALL keyword stops all servers in the same XCF group.

**Tip:** The P *server\_job\_name* has the same effect as F *server\_job\_name*,SHUTDOWN.

► F — *server\_job\_name* — SHUTDOWN — ALL

**ALL**

Stops all Service Repository servers that use the same XCF group as the specified server, including subordinate servers.

## Usage example:

The **SHUTDOWN** command with option **ALL** stops the specified Service Repository server and all servers in the same XCF group.

### Command input:

F PS13SRVJ,SHUTDOWN

### Command output:

```
FPQ02005I - Shutdown command received, server terminating FPQ
FPQ2013I - Closing repository: CATALOG FPQ
FPQ2017I - Repository closed: CATALOG FPQ
FPQ2013I - Closing repository: HKT_INPUT FPQ
FPQ2017I - Repository closed: HKT_INPUT FPQ
FPQ2013I - Closing repository: HKT_00000000 FPQ
FPQ2017I - Repository closed: HKT_00000000 FPQ
FPQ2013I - Closing repository: HKT_REGISTRY FPQ
FPQ2017I - Repository closed: HKT_REGISTRY
BPE0007I FPQ BEGINNING PHASE 1 OF SHUTDOWN FPQ
BPE0032I SHUTDOWN COMMAND COMPLETED FPQ
BPE0008I FPQ BEGINNING PHASE 2 OF SHUTDOWN FPQ
BPE0009I FPQ SHUTDOWN COMPLETE FPQ
SMF0001 PS13SRVJ FPQ2 FPQSVRS 0000
$HASP395 PS13SRVJ ENDED
```

---

## Part 3. Report services reference

IMS Tools Knowledge Base is the foundational infrastructure that provides a centralized information management environment for IMS Tools products.

By using IMS Tools Knowledge Base, you can store, manage, and access resources (such as reports, sensor data, policies, and rules) that are generated or used by any tool product that has been enabled and registered to participate in this environment.

**Topics:**

- [Chapter 7, “Finding and viewing reports,” on page 51](#)
- [Chapter 8, “Managing reports,” on page 71](#)
- [Chapter 9, “Product administration,” on page 87](#)
- [Chapter 10, “Report administration,” on page 93](#)



## Chapter 7. Finding and viewing reports

To find and view reports that are stored in the IMS Tools Knowledge Base central repository, use the IMS Tools Knowledge Base ISPF user interface.

## Topics:

- [“IMS Tools Knowledge Base main menu” on page 51](#)
  - [“ISPF panel features and functions” on page 52](#)
  - [“Finding reports by selection criteria” on page 54](#)
  - [“Finding reports by job” on page 59](#)
  - [“Finding reports by group” on page 60](#)
  - [“Finding reports from the all available report list” on page 62](#)
  - [“Finding reports from the recently viewed report list” on page 63](#)
  - [“Finding reports by using the quick index number” on page 63](#)
  - [“Finding related reports” on page 65](#)
  - [“Viewing and printing reports” on page 67](#)

# IMS Tools Knowledge Base main menu

To access and manage reports that are stored in the repository, use the IMS Tools Knowledge Base main menu.

Figure 24. IMS Tools Knowledge Base main menu panel

## Entering the server name

When you first use the IMS Tools Knowledge Base main menu panel, you must enter the name of the IMS Tools Knowledge Base server that is used for your sysplex environment.

For example:

\*Knowledge Base Server Name . . . . FPQRDP01

This value is preserved in your user profile and is automatically set for all future access of this panel.

You can specify the question mark character (?) in the field (and press Enter) to view a list of servers that you connected to in the past.

## Setting the history value

You are also required to set the **History** value. The most recent report for a given resource is considered the current report. Older versions, if saved, are considered history reports.

Report retention settings control whether a previous (or history) version of a report is retained when a new version is recorded. Many history versions can be retained.

When you indicate N for **History** on the main panel, the **Available Reports Lists** shows only the current instance of each report in the repository.

When you indicate Y for **History** on the main panel, the **Available Reports Lists** displays all current reports and existing history instances of the reports in the repository.

For example:

```
*History (y/n) Y
```

This value is preserved in your user profile and is automatically set for all future access of this panel.

## Entering a RECON ID

Optionally, you can enter a RECON environment ID. RECON environments are defined to IMS Tools Knowledge Base by using the product administration utility.

The setting for **Recon ID** limits the database reports that you see to just the reports for databases that are associated with that RECON environment. You can type the question mark character (?) in the field (and press Enter) to see a list of all defined RECON environments.

For example:

```
Recon ID . . . . . . . . . . . . . . . . . . TTRECN11
```

This value is preserved in your user profile and is automatically set for all future access of this panel.

## ISPF panel features and functions

The IMS Tools Knowledge Base ISPF interface provides extensive and flexible search capabilities to quickly locate the reports that you require. This topic discusses several features and functions that can help make your search time more efficient.

### Help

The IMS Tools Knowledge Base ISPF interface includes a Help system that provides immediate reference information while you are using the product. Help information is provided through two methods:

- Panel help
- Field help

Panel help provides overview information about the purpose and function of the panel and includes a summary of the fields and actions available on the panel. For example, panel help will list all pull down menu options, row actions, and commands. You can access panel help in three ways:

- Place the cursor on the Help menu at the top of the panel, press Enter, select option 1 (**Panel Help**), and press Enter
- Place the cursor on the title of the panel and press F1

**Note:** You can also access the panel help by pressing F1 anywhere on the panel, except in a data field area.

Field help provides information specific to a data field area on the panel. To access field help, place the cursor in the data entry area of the field and press F1.

**Note:** If there is no field help information available for a field, the general panel help information is displayed.

## Wildcard characters

Wildcard characters can be used in some fields to represent any character value.

Wildcard characters include a percent sign (%), which represents a single character substitution, and an asterisk (\*), which represents a multiple character substitution. Only one asterisk (\*) can be specified; for example, \*A\* is not valid.

For example:

A%CD  
A\*D  
\*D  
A\*

## Date format

The **Report Selection Criteria** panel includes the option to enter a date and time range.

The **Start Date** is an optional field that limits selection of reports to those with a job, step, or report date no earlier than the specified date.

The **End Date** is an optional field that limits selection of reports to those with a job, step, or report date no later than the specified date.

You can specify an absolute date using the following format:

yyyy/mm/dd

Alternatively, you can specify a relative date from 0 to 99, where 0 is today and 1 is yesterday.

## Time format

The **Start Time** is an optional field that limits selection of reports to those with a job, step, or report time no earlier than the specified time. **Start Time** cannot be specified without **Start Date**.

The **End Time** is an optional field that limits selection of reports to those with a job, step, or report time no later than the specified time. **End Time** cannot be specified without **End Date**.

You can specify a **Start Time** and **End Time** using the following format:

hh:mm:ss

## History

The most recent report for a given resource is considered the current report. Older versions, if saved, are considered history reports.

You can choose whether or not history versions of reports are selected for display from the IMS Tools Knowledge Base main menu and from the **Report Selection Criteria** panel.

In addition, you can locate all of the versions of a report by using the **History** row action (H) on the **Available Reports List** panel.

## Sort

Panels often contain many rows of reports.

The **Sort** option from the **View** menu allows you to sort the rows using up to six columns. The Sort setting is saved in your profile.

The **Reset Sort Sequencing** option from the **View** menu allows you to restore the original sort sequence. You can also access the sort function by entering **SORT** on the command line.

## Filter

Panels often contain many rows of reports.

The **Filter** option from the **View** menu displays a **Set Filter** criteria panel where you can enter specific values that identify the reports you require.

The refreshed list of reports limits the rows displayed to those reports that match the filter criteria. All reports not meeting the specified filter criteria are eliminated from the refreshed list of reports.

You can also access the filter function by entering **FILTER** on the command line.

## Find

Panels often contain many rows of reports.

The **Find** option from the **View** menu displays a **Find** criteria panel where you can enter specific values that identify the reports you require.

The refreshed list of reports positions the first matching report at the top of the display. The **RFIND** (repeat find) function key will find the next match.

You can also access the find function by entering **FIND** on the command line.

## Column order

The **Available Reports List** panel displays the information about a report in multiple columns that extend beyond the width of your screen.

The **Order Columns** option from the **View** menu displays an **Order Column Settings** panel where you can specify the sequence the columns are displayed in. The customized Order setting is saved in your profile.

The **Reset Order** option from the **View** menu allows you to restore the original column sequence.

You can also access the column order function by entering **ORDER** on the command line.

## Scrolling

The **Available Reports List** panel displays the information about a report in multiple columns that extend beyond the width of your screen.

Right and left scrolling is supported. Scroll right to see additional information about the reports.

You can provide a numeric value on the command line to scroll a specific number of columns.

- A value of 0 will position the screen at the leftmost column.
- A value of 99 will position the screen at the rightmost column.

# Finding reports by selection criteria

---

You can find reports by using specific characteristics of the reports that you require.

## About this task

The **Report Selection Criteria** panel allows you to produce a list of reports by specifying one or more report characteristics.

The following tables describes each of the selection criteria that can be used to find reports in the IMS Tools Knowledge Base report repository:

- For report selection criteria descriptions, see [Table 12 on page 55](#).
- For RECON selection criteria descriptions, see [Table 13 on page 55](#).
- For database selection criteria descriptions, see [Table 14 on page 55](#).
- For job and step selection criteria descriptions, see [Table 15 on page 56](#).
- For date and time selection criteria descriptions, see [Table 16 on page 56](#).

*Table 12. Report selection criteria descriptions*

<b>Criteria</b>	<b>Description</b>
Quick Index	An alphanumeric identifier that uniquely identifies a specific report instance.
History	Include archived (history) versions of all reports being displayed. Values are Y and N.
Product	The product name specifies the short name of the IMS Tools product that created the reports. See the users guide of the IMS Tools product to find the short name of that product.
Report	The report name specifies the short name of a report. See the users guide of the IMS Tools product to find the short names of the reports generated by that product.
Type	The report type can be one of the following classification values: DBD, DD, AREA, PART, LOG, SUM, or WTO
Cmp Code (Completion Code)	A completion code is an integer value that is optionally used by products to communicate the significance of information contained in the report. A completion code of zero means that the report was successfully completed. However, a completion code of zero does not mean that the report does not contain any errors. See the documentation for each product to determine the meaning of specific completion codes.

*Table 13. RECON selection criteria descriptions*

<b>Criteria</b>	<b>Description</b>
RECON ID	The RECON ID is an eight-character name that you assign to a RECON by associating it with the RECON1 data set name. You can review these associations and change them using the IMS Tools Knowledge Base administration user interface. The IMS Tools product that produces database reports uses the RECON1 data set name to make this association.
RECON1 Name	The RECON1 data set that the reports are associated with.
IMS ID	The IMS ID is the IMS system name that is associated with the reports.

*Table 14. Database selection criteria descriptions*

<b>Criteria</b>	<b>Description</b>
Database	The database name is the name of the database that is associated with the reports.
Part/Area (Partition/Area)	The name of the partition or area associated with this report.
DD Name	The data definition name is the name of the data set that is associated with the reports.

---

Table 14. Database selection criteria descriptions (continued)

---

Criteria	Description
Group Type	Database objects can belong to groups. Groups can be defined to DBRC or IMS Tools Knowledge Base (ITKB).
Group Name	Database objects can belong to groups. The group name is the name of the group associated with data objects in this report.
DB Set	HAL DB databases that are enabled for OLR have two sets of data sets. "P" or primary are the "A-J" data sets, and "S" or secondary are the "M-V" data sets.

---

Table 15. Job and step selection criteria descriptions

---

Criteria	Description
System ID	The system ID specifies the IMS system that the report was created on.
User ID	The user ID is the user ID value associated with the job that produced the report.
Job Name	The job name is the name of the job that created the reports.
Job Number	The job number is the number of the job that created the reports.
Step Name	The step name specifies the name of the job step that created the reports.

---

Table 16. Date and time selection criteria descriptions

---

Criteria	Description
Date/Time range	Choose to apply the date and time range to the Job (J), Step (S), or Report (R).
Start Date	The Start Date value limits selection of reports to those with a job/step/report time no earlier than the specified date. You can specify either a relative date (from 0 to 99 where 0 is today, 1 is yesterday) or an absolute date. Format is "yyyy/mm/dd".
Start Time	The Start Time value limits selection of reports to those with a job/step/report time no earlier than the specified time. Start Time cannot be specified without Start Date. Format is "hh:mm:ss".
End Date	The End Date value limits selection of reports to those with a job/step/report time no later than the specified date. You can specify either a relative date (from 0 to 99 where 0 is today, 1 is yesterday) or an absolute date. Format is "yyyy/mm/dd".
End Time	The End Time value limits selection of reports to those with a job/step/report time no later than the specified time. End Time cannot be specified without End Date. Format is "hh:mm:ss".

---

## Procedure

To find reports when you know some characteristics of these reports, complete the following steps:

1. Select option 8 from the IMS Tools Knowledge Base main menu panel. Press Enter.

The **Report Selection Criteria** panel is displayed:

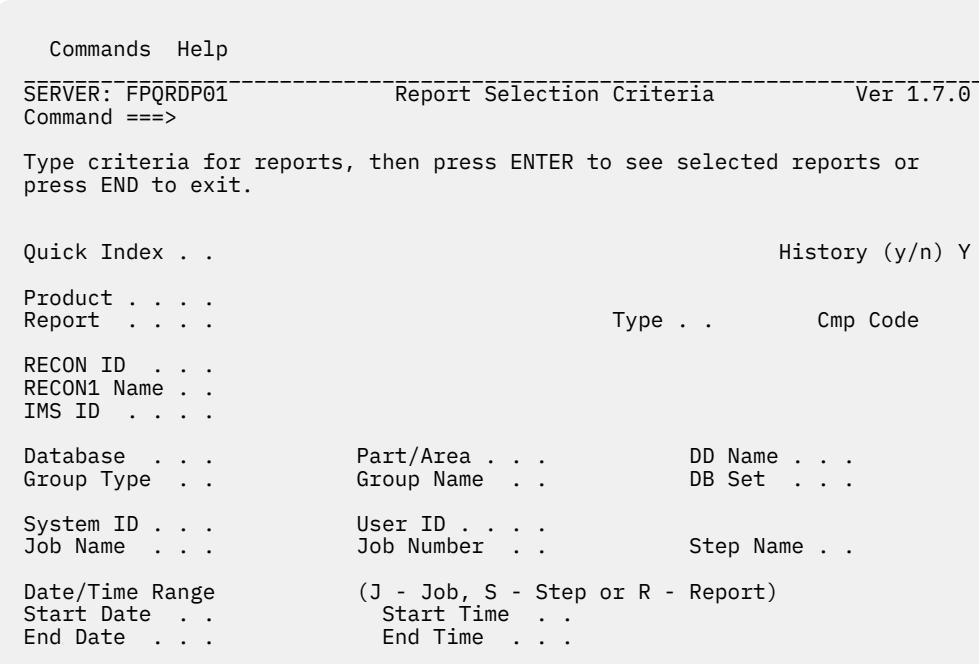


Figure 25. Report Selection Criteria panel

2. Enter any information that describes the list of reports you want to review. Press Enter.

**Important:** The RECON1 Name field does not allow the use of wildcard characters.

The **Available Reports List** panel displays a list of reports that meet the specified criteria.

View Help		Available Reports List			Row 1 from 6																																																	
SERVER: FPQRDP01		Command ==>			Scroll ==> PAGE																																																	
Select a row action or press END to exit.																																																						
Row actions: S - View J - Job T - Step H - History P - Print D - Delete I - Info A - Archive																																																						
<table border="0"> <thead> <tr> <th>Act</th> <th>Product</th> <th>Report</th> <th>DBD</th> <th>Area/Part</th> <th>DD</th> <th>Set</th> </tr> </thead> <tbody> <tr> <td></td> <td>HP Unload</td> <td>UL-SEGMENT STATISTICS</td> <td></td> <td></td> <td>BBD7DD1</td> <td></td> </tr> <tr> <td></td> <td>HP Unload</td> <td>UL-SEGMENT STATISTICS</td> <td></td> <td></td> <td>BBD7DD1</td> <td></td> </tr> <tr> <td></td> <td>HP Unload</td> <td>UL-SEGMENT STATISTICS</td> <td></td> <td></td> <td>CUD7DD1</td> <td></td> </tr> <tr> <td></td> <td>HP Unload</td> <td>UL-SEGMENT STATISTICS</td> <td></td> <td></td> <td>CUD7DD1</td> <td></td> </tr> <tr> <td></td> <td>HP Unload</td> <td>UL-SEGMENT STATISTICS</td> <td></td> <td></td> <td>DDD7DD1</td> <td></td> </tr> <tr> <td></td> <td>HP Unload</td> <td>UL-SEGMENT STATISTICS</td> <td></td> <td></td> <td>DDD7DD1</td> <td></td> </tr> </tbody> </table>						Act	Product	Report	DBD	Area/Part	DD	Set		HP Unload	UL-SEGMENT STATISTICS			BBD7DD1			HP Unload	UL-SEGMENT STATISTICS			BBD7DD1			HP Unload	UL-SEGMENT STATISTICS			CUD7DD1			HP Unload	UL-SEGMENT STATISTICS			CUD7DD1			HP Unload	UL-SEGMENT STATISTICS			DDD7DD1			HP Unload	UL-SEGMENT STATISTICS			DDD7DD1	
Act	Product	Report	DBD	Area/Part	DD	Set																																																
	HP Unload	UL-SEGMENT STATISTICS			BBD7DD1																																																	
	HP Unload	UL-SEGMENT STATISTICS			BBD7DD1																																																	
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	HP Unload	UL-SEGMENT STATISTICS			CUD7DD1																																																	
	HP Unload	UL-SEGMENT STATISTICS			DDD7DD1																																																	
	HP Unload	UL-SEGMENT STATISTICS			DDD7DD1																																																	
***** Bottom of data *****																																																						

Figure 26. Available Reports List panel

If you do not enter any data in the **Report Selection Criteria** panel, the **Available Reports List** displays all of the available reports in the repository (the same output as main menu option 9). This list can be very lengthy.

3. Use the **Sort**, **Find**, and **Filter** options from the **View** menu to drill down to the appropriate reports.
4. Use the Row Actions commands to view and manage your reports.
5. Use the PF11 and PF10 keys to scroll the panel right and left.
6. Use the **Order Columns** option from the **View** menu to change the order that the columns are displayed on the panel.

## Saving and retrieving the selection criteria

You can save the criteria that you specified in the **Report Selection Criteria** panel to quickly find similar reports at a later time. If you specified date and time criteria, you might want to use relative time references.

To save and retrieve the criteria that you entered on the **Report Selection Criteria** panel, complete the following steps:

1. Enter the appropriate criteria information on the **Report Selection Criteria** panel.
2. From the Commands menu of the **Report Selection Criteria** panel, select option 1 (**Save**). Press Enter.

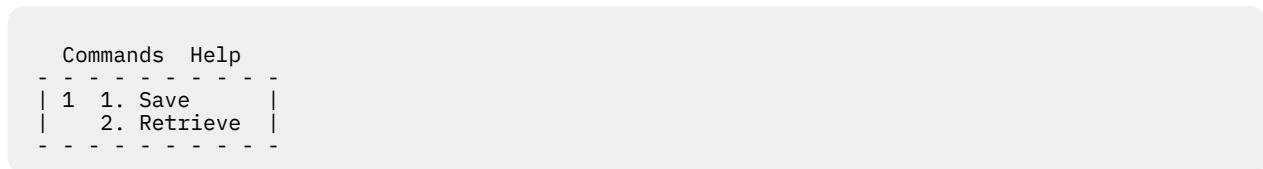


Figure 27. Commands menu from the Report Selection Criteria panel

The **Save Selection Criteria** panel is displayed.

```
 SERVER: FPQRDP01           Save Selection Criteria      Ver 1.7.0
Command ===>

Enter a name and description and press ENTER to save the selection
criteria or press END to exit.

*Name . . . . .
Description . . .
```

Figure 28. Save Selection Criteria panel

3. From the **Save Selection Criteria** panel, enter a unique name for this criteria profile and a description of what report output this criteria profile produces. Press Enter.
4. From the **Commands** menu of **Report Selection Criteria** panel, select option 2 (**Retrieve**). Press Enter.

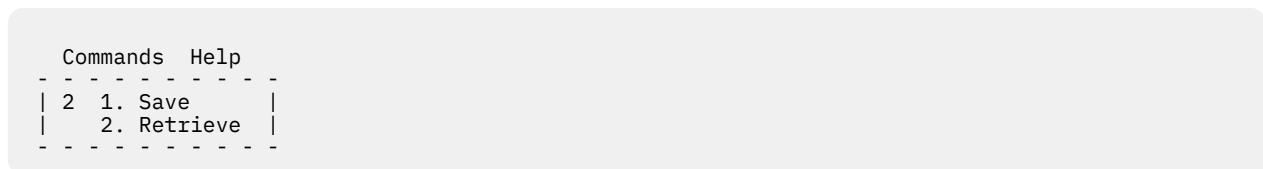


Figure 29. Commands menu from the Report Selection Criteria panel

The **Retrieve Selection Criteria** panel is displayed.

For example:

```
 SERVER: FPQRDP01           Retrieve Selection Criteria    Row 1 to 2 of 2
Command ===>

Choose a selection criteria and press ENTER or press END to exit.

Row actions: S - List D - Delete
Act  Name      Description
-   S1       Primary selection criteria
-   S2       Secondary selection criteria
***** Bottom of data *****
```

Figure 30. Retrieve Selection Criteria panel

5. Use the **List** row action (S) to display the **Report Selection Criteria** panel for the selected saved criteria. Press Enter.

The **Report Selection Criteria** panel is displayed.

For example:

```

Commands Help
-----
SERVER: FPQRDP01      Report Selection Criteria      Ver 1.7.0
Command ==>

Type criteria for reports, then press ENTER to see selected reports or
press END to exit.

Quick Index . . . . .          History (y/n)

Product . . . . .           Type . . . . .           Cmp Code
Report . . . . .          

RECON ID . . . . .           DD Name . . . . .           DB Set . . . . .
RECON1 Name . . . . .       Group Name . . . . .           . . . . .
IMS ID . . . . .          

Database . . . . a*          Part/Area . . . . .           DD Name . . . . .
Group Type . . . . .       Group Name . . . . .           DB Set . . . . .
System ID . . . . .           User ID . . . . .           Step Name . . .
Job Name . . . . .           Job Number . . . . .           . . . . .
Date/Time Range j           (J - Job, S - Step or R - Report)
Start Date . . . 60          Start Time . . . . .           . . . . .
End Date . . . . .           End Time . . . . .           . . . . .

```

Figure 31. Report Selection Criteria panel

6. You can delete the saved criteria from the **Retrieve Selection Criteria** panel by using the **Delete** row action (D) and pressing Enter.

## Finding reports by job

You can find reports by the job that generated the reports.

### Procedure

To find reports when you know the job that generated the reports, complete the following steps:

1. Select option 4 from the IMS Tools Knowledge Base main menu panel. Press Enter.

The **Report Jobs List** panel is displayed. The list provides job names, job numbers, and the number of reports that are available for each job.

```

View Help
-----
SERVER: FPQRDP01      Report Jobs List      Row 1 from 3
Command ==>          Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - List
Act  Job Name  Job Nbr  Job Start      User ID  Nbr of
-    RDOADRPT  01912   20220406 02:00:22  CDLLD01  3
-    RD0ADRPT  02832   20220331 22:32:01  RDEFAL1  30
-    RD0ADRPT  02833   20220331 22:32:55  RDEFAL1  30
***** Bottom of data *****


```

Figure 32. Report Jobs List panel

2. If the results list is lengthy, use the **Sort**, **Find**, and **Filter** options from the **View** menu to locate the job.
3. Select the appropriate job by using the **List** row action (S). Press Enter.

The **Available Reports by Job** panel is displayed:

View Help		Available Reports - Job				Row 11 from 30							
SERVER: FPQRDP01						Scroll ==> PAGE							
Select a row action or press END to exit.													
Row actions: S - View J - Job T - Step H - History P - Print D - Delete													
I - Info A - Archive													
Act	Product	Report	DBD	Area/Part	DD	Set							
HP	Unload	UL-HDAM RAA STATISTICS	CCSTD7		DDD7DD1								
HP	Unload	UL-HDAM RAA STATISTICS	CUSTD7		CUD7DD1								
HP	Unload	UL-SEGMENT STATISTICS		AASTD7									
HP	Unload	UL-SEGMENT STATISTICS	CCSTD7										
HP	Unload	UL-SEGMENT STATISTICS	CUSTD7										
IMS	RSP	DRFXF ICMDRPT		AASTD7									
IMS	RSP	DRFXF ICMDRPT	CCSTD7										
IMS	RSP	DRFXF ICMDRPT	CUSTD7										
IMS	RSP	DRFXF RPIDRPT		AASTD7	BBD7DD1								
IMS	RSP	DRFXF RPIDRPT	CCSTD7		DDD7DD1								
IMS	RSP	DRFXF RPIDRPT	CUSTD7		CUD7DD1								

Figure 33. Available Reports by Job panel

4. Use the **Sort**, **Find**, and **Filter** options from the **View** menu to drill down to the required reports.
5. Use the Row Actions commands to view and manage your reports.
6. Use the PF11 and PF10 keys to scroll the panel right and left.
7. Use the **Order Columns** option from the **View** menu to change the order that the columns that are displayed on the panel.

## Finding reports by group

You can find specific reports from a list of reports that are associated with a specific group type.

### About this task

IMS Tools Knowledge Base group types include:

- Databases
- DDnames
- IMS systems
- Report types
- Report titles
- Products

### Procedure

To find reports by groups, complete the following steps:

1. Select the appropriate group option from the IMS Tools Knowledge Base main menu panel. Press Enter.

Options are available for the following groups:

- Option 1 displays a list of **databases** that have available reports.
- Option 2 displays a list of **DDnames** that have available reports.
- Option 3 displays a list of **IMS systems** that have available reports.

- Option 5 displays a list of **report types** (for example, AREA, DBD, DD, LOG, PART, SUM) that have available reports.
- Option 6 displays a list of **report titles** that have available reports.
- Option 7 displays a list of **registered products** that have available reports.

For example, selecting option 1 produces the **Database List** panel that displays all databases that currently have available reports:

```

View Help
-----
SERVER: FPQRDP01          Database List          Row 1 from 8
Command ==>               Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - List
Act  Recon ID  DBD Name  Nbr of
-    MYRECON1  AASTD7    6
-    MYRECON1  CCSTD7    6
-    MYRECON1  CUSTD7    6
-    MYRECON1  DBD001DA  30
-    MYRECON1  SY11      30
-    MYRECON2  AASTD7    6
-    MYRECON2  CCSTD7    6
-    MYRECON2  CUSTD7    6
*****
***** Bottom of data *****

```

Figure 34. Database List panel

2. If the results list is lengthy, use the **Sort**, **Find**, and **Filter** options from the **View** menu to locate the job.
3. Use the **List** row action (S) to produce an **Available Reports List** panel. Press Enter.

For example, with database AASTD7 selected, the **Available Reports - DB** panel displays the available reports for that database:

```

View Help
-----
SERVER: FPQRDP01          Available Reports - DB          Row 1 from 6
Command ==>               Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
                  I - Info A - Archive
Act Product          Report          DBD      Area/Part DD      Set
  HP Unload        UL-DATA SET STATISTICS  AASTD7
  HP Unload        UL-DATA SET STATISTICS  AASTD7
  HP Unload        UL-HDAM RAA STATISTICS  AASTD7          BBD7DD1
  HP Unload        UL-HDAM RAA STATISTICS  AASTD7
  HP Unload        UL-SEGMENT STATISTICS  AASTD7
  HP Unload        UL-SEGMENT STATISTICS  AASTD7
*****
***** Bottom of data *****

```

Figure 35. Available Reports - DB panel

4. Use the **Sort**, **Find**, and **Filter** options from the **View** menu to drill down to the required reports.
5. Use the Row Actions commands to view and manage your reports.
6. Use the PF11 and PF10 keys to scroll the panel right and left.
7. Use the **Order Columns** option from the **View** menu to change the order the columns that are displayed on the panel.

# Finding reports from the all available report list

You can find reports by listing all available reports.

## About this task

Option 9 of the IMS Tools Knowledge Base main menu panel lists all of the reports in the repository. The list can be large.

From this broad listing of reports in the repository, you can use the following techniques to drill down to specific reports:

- Sort the list order by report characteristics
- Search for a report by using Find criteria
- Filter the list by using Filter criteria
- Customize the display order of column fields that show report characteristics

## Procedure

To find reports from an all available reports list, complete the following steps:

1. Select option 9 from the IMS Tools Knowledge Base main menu panel. Press Enter.

The **Available Reports List** panel is displayed:

Act	Product	Report	DBD	Area/Part	DD	Set
HP Unload		UL-DATA SET STATISTICS			BBD7DD1	
HP Unload		UL-DATA SET STATISTICS			BBD7DD1	
HP Unload		UL-DATA SET STATISTICS			CUD7DD1	
HP Unload		UL-DATA SET STATISTICS			CUD7DD1	
HP Unload		UL-DATA SET STATISTICS			DDD7DD1	
HP Unload		UL-DATA SET STATISTICS			DDD7DD1	
HP Unload		UL-HDAM RAA STATISTICS			BBD7DD1	
HP Unload		UL-HDAM RAA STATISTICS			BBD7DD1	
HP Unload		UL-HDAM RAA STATISTICS			CUD7DD1	
HP Unload		UL-HDAM RAA STATISTICS			CUD7DD1	
HP Unload		UL-HDAM RAA STATISTICS			DDD7DD1	
HP Unload		UL-HDAM RAA STATISTICS			DDD7DD1	
HP Unload		UL-SEGMENT STATISTICS	AASTD7			
HP Unload		UL-SEGMENT STATISTICS	AASTD7			

Figure 36. Available Reports List panel

2. Use the **Sort**, **Find**, and **Filter** options from the **View** menu to drill down to the required reports.

- 1. Sort
- 2. Reset Sort Sequencing
- 3. Find
- 4. Find Next
- 5. Filter
- 6. Filter Off
- 7. Order Columns
- 8. Reset Order

Figure 37. View menu options

3. Use the Row Actions commands to view and manage your reports.

4. Use the PF11 and PF10 keys to scroll the panel right and left.
5. Use the **Order Columns** option from the **View** menu to change the order the columns that are displayed on the panel.

## Finding reports from the recently viewed report list

You can find reports by listing all recently viewed reports.

### About this task

Option 10 of the IMS Tools Knowledge Base main menu panel lists the last ten reports that you viewed, which enables you to view them again quickly.

### Procedure

To find reports from the list of recently viewed reports, complete the following steps:

1. Select option 10 from the IMS Tools Knowledge Base main menu panel. Press Enter.

The **Available Reports List** panel is displayed:

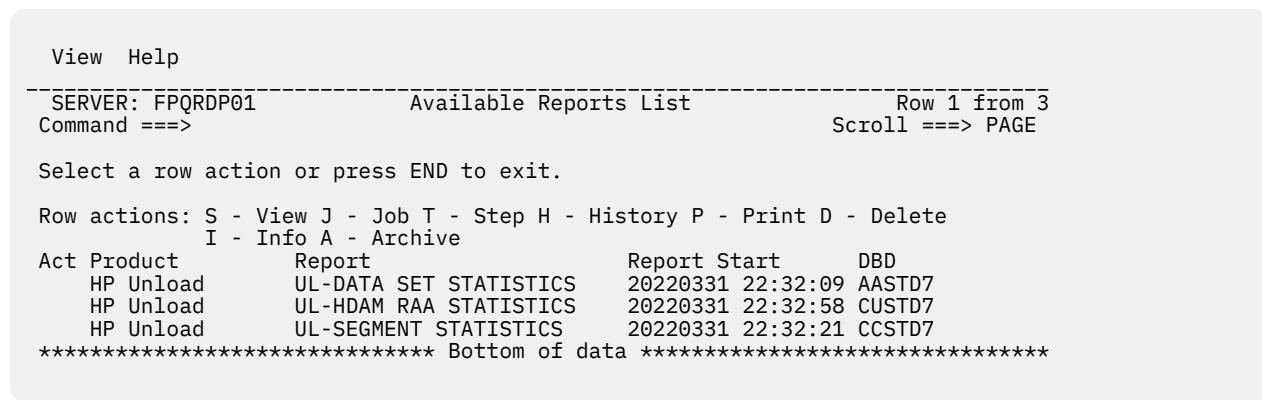


Figure 38. Available Reports List panel

2. Use the Row Actions commands to view and manage your reports.

## Finding reports by using the quick index number

You can find reports based on the quick index numbers for the reports.

### About this task

The quick index number is a unique identifier assigned to the report when it is added to the repository.

If you know the quick index number for the report, you can immediately retrieve the report without using sort, find, and filter techniques.

### Procedure

To retrieve a report using the quick index number, complete the following steps:

1. Select option 8 from the IMS Tools Knowledge Base main menu panel. Press Enter.

The **Report Selection Criteria** panel is displayed.

2. Enter the quick index number for the report in the **Quick Index** field.

For example:

```

Commands Help
----- -----
SERVER: FPQRDP01          Report Selection Criteria      Ver 1.7.0
Command ===>

Type criteria for reports, then press ENTER to see selected reports or
press END to exit.

Quick Index . . AD07B7E0E00700000001          History (y/n) Y
Product . . . .
Report . . . .          Type . . . .          Cmp Code
RECON ID . . .
RECON1 Name . . .
IMS ID . . .

Database . . . .          Part/Area . . . .          DD Name . . .
Group Type . . . .          Group Name . . . .          DB Set . . .
System ID . . . .          User ID . . . .          Step Name . .
Job Name . . . .          Job Number . . . .          Start Time . .
Date/Time Range          (J - Job, S - Step or R - Report)
Start Date . . .          Start Time . . .          End Time . .
End Date . . . .          End Time . . . .          End Time . .


```

Figure 39. Report Selection Criteria panel

3. Press Enter.

The **Available Reports List** panel is displayed. For example:

```

View Help
----- -----
SERVER: FPQRDP01          Available Reports List      Row 1 from 1
Command ===>          Scroll ===> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
           I - Info A - Archive
Act Product          Report          DBD          Area/Part DD          Set
HP Unload          UL-SEGMENT STATISTICS          CCSTD7
***** Bottom of data *****


```

Figure 40. Available Reports List panel

4. Use the Row Actions commands to view and manage the report.

### Obtaining the quick index number for a report

To obtain the quick index number for a report, complete the following steps:

1. Generate an **Available Reports List** from any of the options that are available from the IMS Tools Knowledge Base main menu panel.

For example:

```
View Help
----- SERVER: FPQRDP01 Available Reports List Row 1 from 3
Command ==> Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
             I - Info A - Archive
Act Product      Report          Report Start      DBD
  HP Unload      UL-DATA SET STATISTICS  20220331 22:32:09 AASTD7
  HP Unload      UL-HDAM RAA STATISTICS  20220331 22:32:58 CUSTD7
  HP Unload      UL-SEGMENT STATISTICS  20220331 22:32:21 CCSTD7
***** Bottom of data *****
```

*Figure 41. Available Reports List panel*

2. Use the **Info** row action (I) for a specific report on the list to generate the **Report Information** panel. Press Enter.

The **Report Information** panel is displayed.

For example:

Help

---

-----

SERVER: FPQRDP01 Report Information Ver 1.7.0  
Command ==>

Press END to exit.

-----

Quick Index : AD03B9FF121100000002

Product Name : IMS High Performance Unload  
Report Title : IPRUL-DATA SET STATISTICS  
Cmp Code . : 000

RECON ID . . . : MYRECON1  
RECON1 Name . . . : IMS1.RECON1  
IMS ID . . . . :

Database . . . : CUSTD7 Part/Area . . . : DD Name . . . :  
Group Type . . . : Group Name . . . :

System ID . . . : STLABA6 User ID . . . . : RDEFAL1  
Job Name . . . : RD0ADRPT Job Number . . . : 02833 Step Name . . . : SWRITE

Job Start . . . : 20220331 22:32:55  
Step Start . . . : 20220331 22:32:56  
Report Start . . . : 20220331 22:32:57

Retention Days 0 Versions 0

*Figure 42. Report Information panel*

The **Quick Index** field and value is the first information listed.

## Finding related reports

You can find reports that are related by job, job step, and history.

## Procedure

To find related reports, complete the following steps:

1. Generate an **Available Reports List** from any of the options available from the IMS Tools Knowledge Base main menu panel.

For example:

```

View Help
----- SERVER: FPQRDP01 Available Reports List Row 1 from 3
Command ==> Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
             I - Info A - Archive
Act Product      Report      Report Start      DBD
  HP Unload     UL-DATA SET STATISTICS 20220331 22:32:09 AASTD7
  HP Unload     UL-HDAM RAA STATISTICS 20220331 22:32:58 CUSTD7
  HP Unload     UL-SEGMENT STATISTICS 20220331 22:32:21 CCSTD7
***** Bottom of data *****

```

Figure 43. Available Reports List panel

2. Use any of the following row actions (followed by pressing Enter) to find all reports that are related to the selected report:

**J** - Display all reports with the same job number as the selected report

**T** - Display all reports with the same job step as the selected report

**H** - Display all versions of the selected report, including the current report and all history instances of the report

3. Use the **Order Columns** option from the **View** menu to change the order that the columns are displayed on the panel.

Example 1 (job number as column 3):

```

View Help
----- SERVER: FPQRDP01 Available Reports - Job Row 1 from 30
Command ==> Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
             I - Info A - Archive
Act Product      Report      Job Nbr Area/Part DD      Set
  HP Unload     UL-DATA SET STATISTICS 02832      BBD7DD1
  HP Unload     UL-DATA SET STATISTICS 02832      CUD7DD1
  HP Unload     UL-DATA SET STATISTICS 02832      DDD7DD1
  HP Unload     UL-HDAM RAA STATISTICS 02832      BBD7DD1
  HP Unload     UL-HDAM RAA STATISTICS 02832      CUD7DD1
  HP Unload     UL-HDAM RAA STATISTICS 02832      DDD7DD1
  HP Unload     UL-SEGMENT STATISTICS 02832
  HP Unload     UL-SEGMENT STATISTICS 02832

```

Figure 44. Example 1: Available Reports - Job panel

Example 2 (job step as column 3):

```

View Help
SERVER: FPQRDP01 Available Reports - Job Row 1 from 30
Command ==> Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
I - Info A - Archive

Act Product Report Step Name Area/Part DD Set
HP Unload UL-DATA SET STATISTICS SWRITE BBD7DD1
HP Unload UL-DATA SET STATISTICS SWRITE CUD7DD1
HP Unload UL-DATA SET STATISTICS SWRITE DDD7DD1
HP Unload UL-HDAM RAA STATISTICS SWRITE BBD7DD1
HP Unload UL-HDAM RAA STATISTICS SWRITE CUD7DD1
HP Unload UL-HDAM RAA STATISTICS SWRITE DDD7DD1
HP Unload UL-SEGMENT STATISTICS SWRITE
HP Unload UL-SEGMENT STATISTICS SWRITE

```

Figure 45. Example 2: Available Reports - Job panel

Example 3 (history):

```

View Help
SERVER: FPQRDP01 Available Reports - History Row 1 from 2
Command ==> Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
I - Info A - Archive

Act Product Report DBD Area/Part DD Set
HP Unload UL-HDAM RAA STATISTICS BBD7DD1
HP Unload UL-HDAM RAA STATISTICS BBD7DD1
***** Bottom of data *****


```

Figure 46. Example 3: Available Reports - History panel

4. Use the **Sort**, **Find**, and **Filter** options from the **View** menu to drill down to the required reports.
5. Use the PF11 and PF10 keys to scroll the panel right and left.

## Viewing and printing reports

You can view and print the contents of reports that have been stored in the IMS Tools Knowledge Base repository.

### Procedure

To view and print the contents of a report, complete the following steps:

1. Generate an **Available Reports List** from any of the options available from the IMS Tools Knowledge Base main menu panel.

For example:

```

SERVER: FPQRDP01           Available Reports List           Row 1 from 3
Command ==>                   Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
             I - Info A - Archive
Act Product      Report      Report Start      DBD
  HP Unload     UL-DATA SET STATISTICS  20220331 22:32:09 AASTD7
  HP Unload     UL-HDAM RAA STATISTICS  20220331 22:32:58 CUSTD7
  HP Unload     UL-SEGMENT STATISTICS  20220331 22:32:21 CCSTD7
***** Bottom of data *****

```

Figure 47. Available Reports List panel

2. Use the **View** row action (S) to display the contents of the report. Press Enter.

The contents of the report is displayed in the standard ISPF user interface.

For example:

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
----- HDUNLOAD:DB_STATISTICS Columns 00001 00072
Command ==>                                         Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -CAUTION- Data contains invalid (non-display) characters. Use command
==MSG>     ==> FIND P'.' to position cursor to these
==MSG> -Warning- The UNDO command is not available until you change
==MSG>     your edit profile using the command RECOVERY ON.
000001 IMS HIGH PERFORMANCE UNLOAD                "CAB
000002 5655-E06                                     03/31/2022 22.32.15
000003
000004 DDNAME=CUD7DD1
000005 -----
000006 *** CAB ENVIRONMENT
000007     OPERATING SYSTEM  z/OS 02.04.00 HBB7709
000008     ACCESS METHOD    VSAM
000009     BUFFER FIXING    NO
000010     RANSIZE          45
000011     NBRSRAN          9
000012     NBRDRAN          4
000013     NBRDBUF          90
000014     OVERLAP          YES
000015     REFT1             0
000016     REFT2             0
000017     REFT3             0
000018     REFT4             45
000019     NBHSIZE          3
000020     INTER             NO
000021     ANYNEXT          NO
F1=Help     F2=Split     F3=Exit      F5=Rfind     F6=Rchange   F7=Up
F8=Down    F9=Swap      F10=Left     F11=Right    F12=Cancel

```

Figure 48. ISPF view of report contents

3. Use the standard ISPF VIEW controls to navigate through the contents of the report.
4. To print the report, return to the **Available Reports List** and use the **Print** row action (P). Press Enter.

The **Print Report** message is displayed.

For example:

```
Print Report  
You are requesting a report be  
printed. Please specify the SYSOUT  
class. press CANCEL to exit without  
printing.  
Then press ENTER to print the report.  
SYSOUT Class . . . .
```

*Figure 49. Print Report message*

5. Specify the SYSOUT class and press Enter.

The **Available Reports List** panel displays the row for the printed report.

The **Report Printed** message is displayed in the upper right corner of the panel.

For example:

```
SERVER: FPQRDP01          Available Reports List          Report Printed  
Command ==>                                Scroll ==> PAGE  
  
Select a row action or press END to exit.  
  
Row actions: S - View J - Job T - Step H - History P - Print D - Delete  
           I - Info A - Archive  
Act Product      Report          Report Start      DBD  
  HP Unload      UL-HDAM RAA STATISTICS  20220331 22:32:58 CUSTD7  
***** Bottom of data *****
```

*Figure 50. Available Reports List panel*



# Chapter 8. Managing reports

To manage reports that are stored in the IMS Tools Knowledge Base central repository, use the IMS Tools Knowledge Base ISPF user interface.

## Topics:

- [“Archiving reports” on page 71](#)
- [“Deleting reports” on page 73](#)
- [“Managing deferred reports” on page 74](#)
- [“Importing reports” on page 76](#)
- [“Exporting reports” on page 81](#)

## Archiving reports

You can override the retention settings for a report and archive that report permanently.

### About this task

All reports that are stored in the IMS Tools Knowledge Base repository are initially subject to automatic deletion. The time of deletion is determined by the report's retention values. The retention values for a report are set when the report is initially registered with the repository by the tool product. You can customize the retention values by using the ISPF **Report Subscriptions List** panel for a product.

See [“Report retention overview” on page 93](#).

Report retention is governed by the following two values:

- **Days** - the minimum number of days that the report will be retained in the repository
- **Versions** - the minimum number of reports of a given index value that will be retained in the repository as history copies

When a new report is generated, the retention status is evaluated for any existing reports that have the same index value. Reports that exceed both the number of days and the number of versions will be deleted.

You can view the retention values for a report by viewing the **Report Information** panel for the report (use the **Info** row action (I) from an **Available Reports** panel). The retention values are located at the end of this panel.

For example:

SERVER: FPQRDP01 Report Information Ver 1.7.0  
Command ==>

Press END to exit.

Quick Index : AD01BA5AC081000000002

Product Name : IMS High Performance UnLoad  
Report Title : IPRUL-DATA SET STATISTICS Cmp Code . . . : 000

RECON ID . . . : MYRECON1  
RECON1 Name . . . : IMS1.RECON1  
IMS ID . . . . . :

Database . . . : Part/Area . . . : DD Name . . . : BBD7DD1  
Group Type . . . : Group Name . . . :

System ID . . . : STLABA6 User ID . . . . : RDEFAL1  
Job Name . . . : RD0ADRPT Job Number . . . : 02833 Step Name . . . : SWRITE

Job Start . . . : 20220331 22:32:55  
Step Start . . . : 20220331 22:33:02  
Report Start . . . : 20220331 22:33:03

Retention Days 1,234 Versions 9

Figure 51. Report Information panel

You can take a report out of the retention cycle by archiving the report. This report will no longer be considered for deletion and does not get counted in the versions when evaluating retention for non-archived reports.

## Procedure

To archive a report, complete the following steps:

1. Generate an **Available Reports List** from any of the options that are available from the IMS Tools Knowledge Base main menu panel.

For example:

SERVER: FPQRDP01 Available Reports List Row 1 from 3  
Command ===> Scroll ===> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete  
I - Info A - Archive

Act	Product	Report	Report Start	DBD
HP Unload	UL-DATA	SET STATISTICS	20220331 22:32:09	AASTD7
HP Unload	UL-HDAM	RAA STATISTICS	20220331 22:32:58	CUSTD7
HP Unload	UL-SEGMENT	STATISTICS	20220331 22:32:21	CCSTD7

\*\*\*\*\* Bottom of data \*\*\*\*\*

*Figure 52. Available Reports List panel*

2. Use the **Archive** row action (A) to place the report in an archived condition. Press Enter.
  3. To view the archive status of this report, use the **Info** row action (I) for that report. Press Enter.

The **Report Information** panel is displayed.

The Report is ARCHIVED message is displayed at the end of the panel.

For example:

```

SERVER: FPQRDP01          Report Information          Ver 1.7.0
Command ===>

Press END to exit.

Quick Index : AD03B72B37C800000001
Product Name  : IMS High Performance UnLoad
Report Title  : IPRUL-DATA SET STATISTICS
                                         Cmp Code . : 000

RECON ID . . : MYRECON1
RECON1 Name . : IMS1.RECON1
IMS ID . . . :

Database . . : AASTD7      Part/Area . . . :          DD Name . . . :
Group Type . . :                      Group Name . . . :

System ID . . : STLABA6      User ID . . . . : RDEFAL1
Job Name . . : RD0ADRPT    Job Number . . . : 02832      Step Name . . : SWRITE

Job Start . . : 20220331 22:32:01
Step Start . : 20220331 22:32:08
Report Start : 20220331 22:32:09

Retention Days 0      Versions 0
Report is ARCHIVED; it will not expire.

```

Figure 53. Report Information panel

## Deleting reports

You can delete reports that are stored in the Output repository.

### Procedure

To delete a report from the Output repository, complete the following steps:

1. Generate an **Available Reports List** from any of the options that are available from the IMS Tools Knowledge Base main menu panel.

For example:

```

View Help

----- SERVER: FPQRDP01 Available Reports List Row 1 from 3 -----
Command ===>                                         Scroll ===> PAGE

Select a row action or press END to exit.

Row actions: S - View J - Job T - Step H - History P - Print D - Delete
             I - Info A - Archive
Act Product      Report      Report Start      DBD
  HP Unload      UL-DATA SET STATISTICS  20220331 22:32:09 AASTD7
  HP Unload      UL-HDAM RAA STATISTICS  20220331 22:32:58 CUSTD7
  HP Unload      UL-SEGMENT STATISTICS  20220331 22:32:21 CCSTD7
***** Bottom of data *****


```

Figure 54. Available Reports List panel

2. Use the **Delete** row action (D) to delete the report. Press Enter.
3. A **Delete Report** message is displayed that prompts you to confirm that you really want to delete the report and, if so, whether to delete just this version of the report or all versions of the report.

```
Delete Report

You are requesting the deletion of a
report, press CANCEL to exit without
deleting.

Choose whether to delete this report
(Y) or to delete all versions of this
report with the same index value (A).
Then press ENTER to DELETE.

Delete all versions? (A/Y/N)
```

Figure 55. Delete Report message

4. To complete the task, respond appropriately and press Enter.
  - Use Y to delete the report
  - Use A to delete all versions of this report with the same index value
  - Use N to exit this action without deleting (this is the equivalent of using CANCEL)

## Managing deferred reports

Deferred reports are reports that were generated by IMS Tools products in the Output repository but that have not been made available to users.

### About this task

For example, the IMS Parallel Reorganization tool might be in the process of reorganizing databases to restore data clustering and distribute free space evenly. During the process, shadow databases exist.

The reorganization process requires the services of several other IMS Tools products. For example, IMS High Performance Image Copy allows database blocks to be passed directly from the reload task to an image copy task for processing. IMS High Performance Pointer Checker allows HASH pointer checking during the image copy processing.

Both IMS High Performance Image Copy and IMS High Performance Pointer Checker might be generating reports while supporting the reorganization process. While the reorganization task is in process (until the databases are switched), the generated reports are held in a deferred status by IMS Tools Knowledge Base.

If the IMS Parallel Reorganization database reorganization does not complete for some reason, the generated reports remain in the deferred state. You can manually manage these deferred reports by either deleting them or committing them to the Output repository. Typically this action will not be required.

Do not delete or commit any reports for active processes (in general, ignore anything within the last 24 hours).

### Procedure

To manage deferred reports, complete the following steps:

**Note:** While reports are in the deferred state, they are not accessible for viewing from the IMS Tools Knowledge Base ISPF user interface.

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

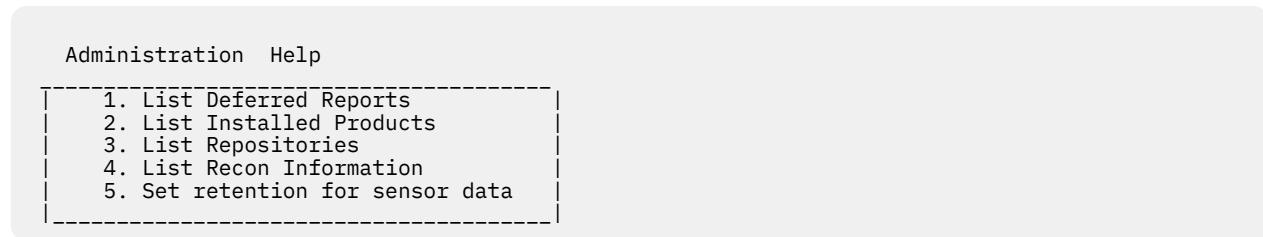


Figure 56. Administration menu options

2. Select option 1 (**List Deferred Reports**). Press Enter.

The **Deferred Reports** panel is displayed.

For example:

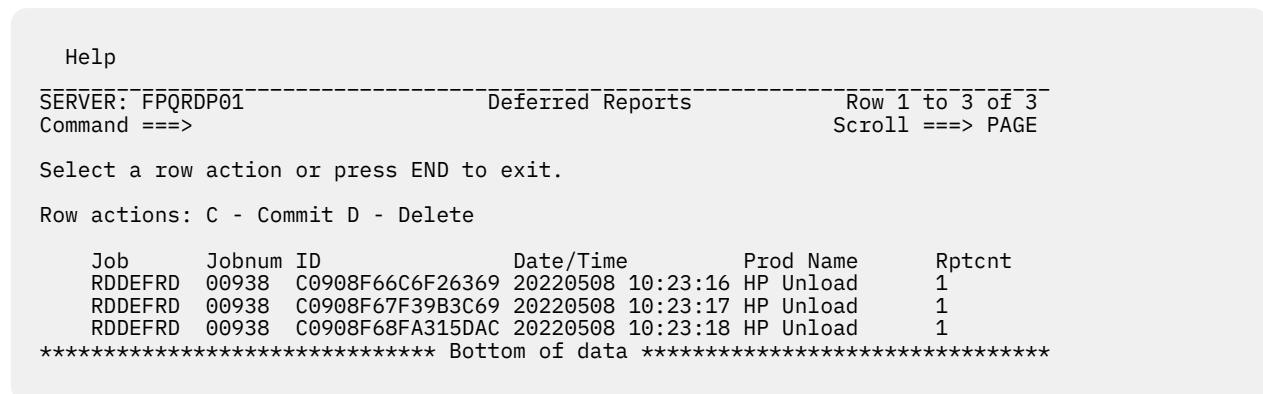


Figure 57. Deferred Reports panel

3. Use the **Commit** row action (C) to make the reports available from the IMS Tools Knowledge Base ISPF user interface. Press Enter.

The Report ID value changes to Committed.

For example:

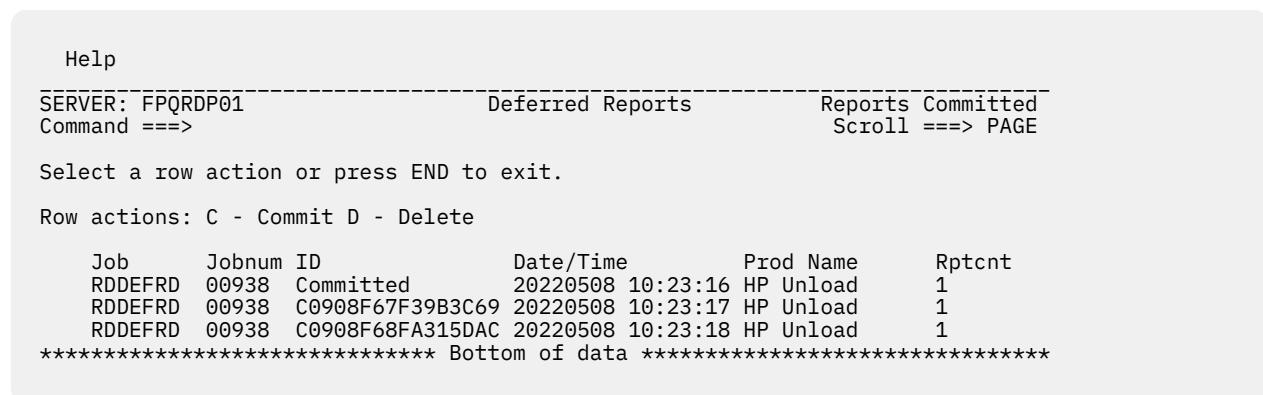


Figure 58. Deferred Reports panel

4. Use the **Delete** row action (D) to remove the reports entirely from the Output repository. Press Enter.

The Report ID value changes to Deleted.

For example:

```

Help

SERVER: FPQRDP01          Deferred Reports          Reports Deleted
Command ==>               Scroll ==> PAGE

Select a row action or press END to exit.

Row actions: C - Commit D - Delete

Job      Jobnum ID      Date/Time      Prod Name      Rptcnt
RDDEFRD  00938  Committed  20220508 10:23:16  HP Unload  1
RDDEFRD  00938  Deleted   20220508 10:23:17  HP Unload  1
RDDEFRD  00938  C0908F68FA315DAC 20220508 10:23:18  HP Unload  1
***** Bottom of data *****
```

Figure 59. Deferred Reports panel

## Importing reports

You can import reports into the Output repository.

Reports generated by products enabled to participate in the IMS Tools Knowledge Base information management environment are automatically sent to and stored in the Output repository. There can be situations when you have reports that you must import into the repository.

Possible scenarios where importing reports might be required include:

- The JCL for an enabled product was not correctly set up and the automatic storing of reports in the repository fails to function.
- The product is registered but not enabled. In this case, the product JCL can write reports to a temporary data set. The IMPORT job can read the reports from that data set and write the reports to the Output repository.
- You have reports from another source that you want entered into the Output repository.

When reports are written to the Output repository, they are indexed by the values supplied for IMSID, GRPTYPE, GRPNAME, DBD, PART/AREA, and DD. You should only provide values that will allow you to easily search for the reports in the future.

In normal use, the index values for each report generated by your product should be unique to the resource processed. Reports with the same index value (for the same report ID) are considered to be versions of the same report. Retention rules will determine whether old versions of the report are saved or deleted.

When you import reports, you are responsible for creating appropriate index values for the reports.

To import reports, complete the following procedure:

1. Customize the properties for the report by modifying your copy of member HKTJIMPT.

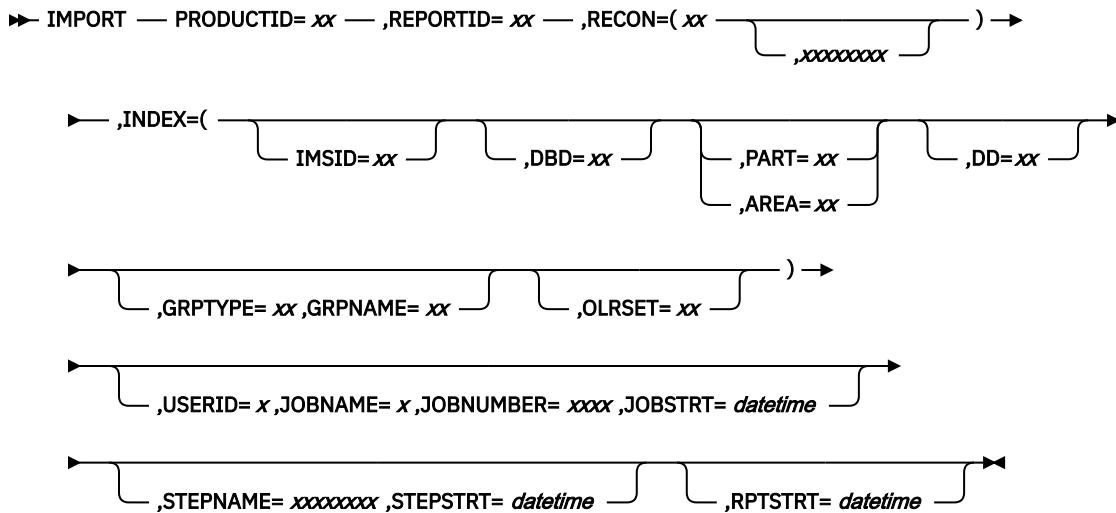
Refer to member HKTJIMPT in *hlq.SHKTSAMP* for the job JCL.

Substitute the *hlq* variable with the installation data set high level qualifier.

The member includes commented instructions.

2. Submit the job and ensure that it completes with a return code=0.

## Syntax diagram for IMPORT



## Parameter reference for HKTJIMPT

The following parameters are provided on the EXEC statement and control the execution of the JOB.

*Table 17. Parameters for EXEC*

Parameter	Description
ITKBSRVR	<p>The name of the IMS Tools Knowledge Base server XCF group.</p> <p>The value can be a maximum of 8 characters in length.</p> <p>This parameter is required.</p>
PRINT=YES NO	<p>Specifies whether or not the report read from the REPORT DD is written to the PRINT DD.</p> <p>The default value is NO.</p> <p>This parameter is optional.</p>

The following parameters must be supplied to assign appropriate properties to the report:

*Table 18. Parameters for SYSIN DD*

Parameter	Description
IMPORT	<p>Identifies the function.</p> <p>Must be first non-blank keyword on the statement.</p> <p>This parameter is required.</p>
PRODUCTID	<p>2-character ID of the product that is defined to IMS Tools Knowledge Base.</p> <p>This parameter is required.</p> <p>Refer to <a href="#">Table 20 on page 81</a>.</p>
REPORTID	<p>Two-character ID of the report that is defined to IMS Tools Knowledge Base for the specified PRODUCTID.</p> <p>This parameter is required.</p>

Table 18. Parameters for SYSIN DD (continued)

Parameter	Description
RECON= (DSN DDN RCN  NONE,value)	<p>Associates this report with a RECON environment.</p> <p><b>DSN,value</b> Specifies a 44-character data set name that is used to identify the RECON environment. The data set name must be provided in <i>value</i>.</p> <p><b>DDN,value</b> Specifies an 8-character DD that is used to locate the data set name that will be used to identify the RECON environment. The DD name must be provided in <i>value</i>.</p> <p><b>RCN</b> The RECON1, RECON2, and RECON3 DDs that are used to locate the data set name that will be used to identify the RECON environment.</p> <p><b>NONE</b> Specifies that there is no associated RECON environment.</p> <p>This parameter is required.</p>
INDEX	<p>One or more sub-parameters, enclosed in parentheses, that define the index or indexes for this report. At least one index must be supplied. Up to 100 indexes are supported.</p> <p>One or more INDEX sub-parameters must be provided. A null value will be used for any subparameter not provided.</p> <p>See <a href="#">Table 19 on page 79</a>.</p> <p>This parameter is required.</p>
USERID	<p>The ID of the user that ran the report. If not specified, the user ID for the current IMPORT job will be used.</p> <p>The value can be a maximum of 8 characters in length.</p> <p>If specified, the parameter must be used in combination with JOBNAME, JOBNUMBER, and JOBSTRT.</p> <p>This parameter is optional.</p>
JOBNAME	<p>The name of the JOB that produced the report. If not specified, the JOBNAME for the current IMPORT job will be used.</p> <p>The value can be a maximum of 8 characters in length.</p> <p>If specified, this parameter must be used in combination with USERID, JOBNUMBER, and JOBSTRT.</p> <p>This parameter is optional.</p>
JOBNUMBER	<p>The number of the JOB that ran the report. If not specified, the job number for the current IMPORT job will be used.</p> <p>The value can be a maximum of 7 characters (numeric) in length.</p> <p>If specified, this parameter must be used in combination with USERID, JOBNAME, and JOBSTRT.</p> <p>This parameter is optional.</p>

Table 18. Parameters for SYSIN DD (continued)

Parameter	Description
JOBSTRT	<p>The start time for the JOB that ran the report. If not specified, the Job start time for the current IMPORT job will be used.</p> <p>Syntax (must be specified in its entirety):</p> <div style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc; margin-left: 20px;"><i>yyyy/mm/dd;hh:mm:ss</i></div> <p><i>yyyy</i> must be 2004 or greater.</p> <p>If specified, this parameter must be used in combination with USERID, JOBNAME, and JOBNUMBER.</p> <p>This parameter is optional.</p>
STEPNAME	<p>The name of the step that ran the report. If not specified, the name of the step for the current IMPORT job will be used.</p> <p>The value can be a maximum of 8 characters.</p> <p>Permitted characters include A-Z, 0-9, @, #, \$, -, _, and blank.</p> <p>If specified, this parameter must be used in combination with STEPSTRT.</p> <p>This parameter is optional.</p>
STEPSTRT	<p>The start time for the step that ran the report. If not specified, the step start time for the current IMPORT job will be used.</p> <p>Syntax (must be specified in its entirety):</p> <div style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc; margin-left: 20px;"><i>yyyy/mm/dd;hh:mm:ss</i></div> <p>The value <i>yyyy</i> must be 2004 or greater.</p> <p>If specified, this parameter must be used in combination with STEPNAME.</p> <p>This parameter is optional.</p>
RPTSTRT	<p>The start time for the JOB that ran the report. If not specified, the JOB start time for the current IMPORT job will be used.</p> <p>Syntax (must be specified in its entirety):</p> <div style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc; margin-left: 20px;"><i>yyyy/mm/dd;hh:mm:ss</i></div> <p>The value <i>yyyy</i> must be 2004 or greater.</p> <p>This parameter is optional.</p>

Table 19. Sub-parameters for INDEX

Parameter	Description
IMSID	<p>The IMS system to associate this report with. Up to four characters in length.</p> <p>Specify only if the report is related to a specific IMS instance.</p> <p>This parameter is optional.</p>

Table 19. Sub-parameters for INDEX (continued)

Parameter	Description
GRPTYPE, GRPNAME	<p>Specify only if the report was generated for a specific RECON group type and group name.</p> <p>The value for GRPTYPE can be either CA or DBDS (groups defined to DBRC).</p> <p>GRPNAME is the name of the group associated with this report. The value can be a maximum of 8 characters</p> <p>These parameters are optional. If one of these parameters is specified, the other parameter must also be specified.</p>
DBD	<p>The database to associate this report with.</p> <p>The value can be a maximum of 8 characters in length.</p> <p>This parameter is optional.</p>
PART   AREA=xxxxxxxx	<p>The partition or area to associate this report with.</p> <p>The value can be a maximum of 8 characters in length.</p> <p>This parameter is optional.</p>
DD	<p>The database data set DD to associate this report with.</p> <p>The value can be a maximum of 8 characters in length.</p> <p>This parameter is optional.</p>
OLRSET	<p>Applies only to HALDB databases that are OLR-enabled. This parameter is not an index value, but is associated with the report.</p> <p>Indicates whether the report is for the Primary or Secondary data sets or if the status is Unknown.</p> <p>Valid values are:</p> <p>P - Primary data set S - Secondary data set U - Unknown</p> <p>This parameter is optional.</p>

### Guidelines for setting INDEX sub-parameters

- If the report member contains information about a database or it is generated for each database, specify DBD but do not specify PART/AREA or DD.
- If the report member contains information about HALDB partition or it is generated by each partition, specify DBD and PART but do not specify DD.
- If the report member contains information about DEDB area or it is generated by each area, set DBD and AREA but do not specify DD.
- If the report member contains information about database data set or it is generated by each database data set, set DBD, PART/AREA, and DD.
- For the Full-Function database and non-HALDB, do not specify PART/AREA.
- In case of HALDB, specify the A-side DD name even if an actual active side is M-side.

## ID reference for IMS Tools products

The following table specifies the IDs of IMS Tools products for use as values to the IMPORT PRODUCTID parameter.

Table 20. IDs of IMS Tools products for use as values to the PRODUCTID parameter

Product ID	Name
DA	IMS Database Reorganization Expert
DC	IMS High Performance Change Accumulation Utility
DE	IMS Recovery Expert for z/OS
DF	IMS Fast Path Solution Pack
DG	IMS Database Solution Pack, IMS Database Utility Solution
DH	IMS High Performance Prefix Resolution
DI	IMS High Performance Image Copy
DL	IMS High Performance Load
DP	IMS High Performance Pointer Checker
DR	IMS Database Recovery Facility
DS	IMS Recovery Solution Pack
DU	IMS High Performance Unload
DX	IMS Index Builder
IB	IMS Buffer Pool Analyzer
IP	IMS Performance Analyzer

### Example: HKTJIMPT JOB

```
//IMPORT EXEC PGM=HKTIMPRT,PARM='ITKBSRVR=SRVRNAME'
//STEPLIB DD DISP=SHR,DSN=HLQ1.SHKTLOAD
//SYSPRINT DD SYSOUT=*
//REPORT DD DISP=SHR,DSN=REPORT.NAME
//SYSIN DD *
      IMPORT PRODUCTID=PP,REPORTID=RR,
      RECON=(NONE)
      INDEX(DBD=DBDNAME,DD=DDNAME)
/*

```

## Exporting reports

You can selectively export (print) reports that reside in the IMS Tools Knowledge Base Output repository.

Reports generated by products enabled to participate in the IMS Tools Knowledge Base information management environment are automatically sent to and stored in the Output repository. You can print groups of stored reports based on specific criteria such as product ID, report ID, and history versions.

When reports are exported, they are indexed by the values supplied for IMSID, GRPTYPE, GRPNAME, DBD, PART/AREA, and DD.

To export reports, complete the following procedure:

1. Customize the properties for the report by modifying your copy of member HKTJEXPT.

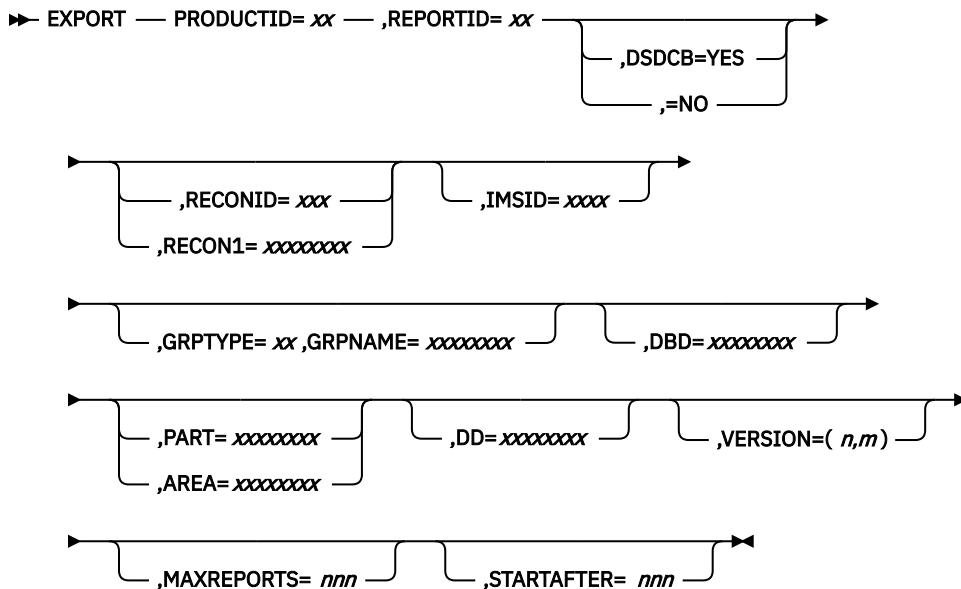
Refer to member HKTJEXPT in *hlq.SHKTSAMP* for the job JCL.

Substitute the *hlq* variable with the installation data set high level qualifier.

The member includes commented instructions.

2. Submit the job and ensure that it completes with a return code=0.

## Syntax diagram for EXPORT



## Parameter reference for HKTJEXPT

The following parameters are provided on the EXEC statement and control the execution of the JOB.

*Table 21. Parameters for EXEC*

Parameter	Description
ITKBSRVR	The name of the IMS Tools Knowledge Base server XCF group. Can be up to eight characters in length. This parameter is required.

The following parameters must be supplied to assign appropriate properties to the report:

*Table 22. Parameters for SYSIN DD*

Parameter	Description
EXPORT	Identifies the function. Must be first non-blank keyword on the statement. This parameter is required.
PRODUCTID	2-character ID of the product that is defined to IMS Tools Knowledge Base. This parameter is required. Refer to <a href="#">Table 23 on page 84</a> .
REPORTID	Two-character ID of the report that is defined to IMS Tools Knowledge Base for the specified PRODUCTID and is to be exported (printed). This parameter is required.

Table 22. Parameters for SYSIN DD (continued)

Parameter	Description
DSDCB=YES NO	<p>Specifies how DCB attributes are set,</p> <p>If set to NO, EXPORT will set DCB attributes based on the report attributes.</p> <p>If set to YES, EXPORT uses the DCB attributes of the PRINT data set rather than the DCB attributes of the report. Ensure that the data set has the appropriate attributes.</p> <p>The default value is NO.</p> <p>This parameter is optional.</p>
VERSION= <i>n n,m</i>	<p>Specifies the range of reports to be exported (printed).</p> <p>The value <i>n</i> is the relative generation number of the report, where 0 is the current generation, -1 is the one before, and the like.</p> <p><i>n,m</i> is a range of reports to be generated for each report found by the index values. <i>m</i> is specified as <i>n</i>. Both <i>n</i> and <i>m</i> must specify relative values. <i>n</i> is oldest and <i>m</i> is the newest.</p> <p>The range of valid values for this parameter is -32767 to 0. The default value is 0.</p> <p>This parameter is optional.</p>
MAXREPORTS= <i>nnn</i>	<p>Specifies the maximum number of report members that will be produced.</p> <p>The range of valid values for this parameter is 1 to 32767. The default value is 1.</p> <p>This parameter is optional.</p>
STARTAFTER= <i>nnn</i>	<p>Specifies the maximum number of reports members to be skipped before printing begins.</p> <p>The range of valid values for this parameter is 0 to 32767. The default value is 0.</p> <p>MAXREPORTS is required with STARTAFTER.</p> <p>This parameter is optional.</p>
RECONID=xxxxxxxx	<p>RECONID specifies the user-assigned RECON name to be used to select reports.</p> <p>The value can be a maximum of 8 characters.</p> <p>The default value is NORECON.</p> <p>This parameter is optional.</p>
RECON1= <i>string</i>	<p>RECON1 specifies the RECON1 data set name to be used to select reports.</p> <p>The value can be a maximum of 44 characters.</p> <p>There is no default value.</p> <p>This parameter is optional.</p>
IMSID=xxxx	<p>Specifies the IMS ID of the members to be selected for this report.</p> <p>This parameter is optional.</p>

Table 22. Parameters for SYSIN DD (continued)

Parameter	Description
GRPTYPE=xxxx, GRPNAME=xxxxxxxx	<p>Specifies the group type and name of the members to be selected for this report.</p> <p>The value for GRPTYPE can be either CA or DBDS (groups defined to DBRC).</p> <p>GRPNAME is the name of the group and should match the name of a defined group.</p> <p>The value can be a maximum of 8 characters.</p> <p>These parameters are optional. If one of these parameters is specified, the other parameter must also be specified.</p>
DBD=xxxxxxxx	<p>Specifies DBD name of the members to be selected for this report.</p> <p>The value can be a maximum of 8 characters.</p> <p>This parameter is optional.</p>
PART   AREA=xxxxxxxx	<p>Specifies partition or area name of the members to be selected for this report.</p> <p>The value can be a maximum of 8 characters.</p> <p>This parameter is optional.</p>
DD=xxxxxxxx	<p>Specifies the database DD name of the members to be selected for this report.</p> <p>The value can be a maximum of 8 characters.</p> <p>This parameter is optional.</p>

## ID reference for IMS Tools products

The following table specifies the IDs of IMS Tools products for use as values to the PRODUCTID parameter.

Table 23. IDs of IMS Tools products for use as values to the PRODUCTID parameter

Product ID	Name
DA	IMS Database Reorganization Expert
DC	IMS High Performance Change Accumulation Utility
DE	IMS Recovery Expert for z/OS
DF	IMS Fast Path Solution Pack
DG	IMS Database Solution Pack, IMS Database Utility Solution
DH	IMS High Performance Prefix Resolution
DI	IMS High Performance Image Copy
DL	IMS High Performance Load
DP	IMS High Performance Pointer Checker
DR	IMS Database Recovery Facility

Table 23. IDs of IMS Tools products for use as values to the PRODUCTID parameter (continued)

Product ID	Name
DS	IMS Recovery Solution Pack
DU	IMS High Performance Unload
DX	IMS Index Builder
IB	IMS Buffer Pool Analyzer
IP	IMS Performance Analyzer

### Example: HKTJEXPT JOB

```
//EXPORT EXEC PGM=HKTEXPR2,PARM='ITKBSRVR=SRVRNAME'
//STEPLIB DD DISP=SHR,DSN=HLQ1.SHKTLOAD
//PRINT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  EXPORT PRODUCTID=PP,REPORTID=RR,
        RECONID=MYRECON1,
        DBD=DBDNAME,DD=DDNAME
/*
/*
```

### Example: HKTJEXPT report results

The following report shows the results from an HKTJEXPT JOB that specified a product ID for IMS Recovery Solution Pack for z/OS: IMS Database Recovery Facility: Extended Functions and a report ID of 01. The history version specification called for the current version of the report plus the previous three versions.

The PRT indicator in the Action (Act) column indicates those reports that are printed.

1	IMS Tools Knowledge Base REPOSITORY REPORT EXPORT UTILITY							00/00/0000
* CONTROL STATEMENTS READ *								
	EXPORT PRODUCTID=DS,REPORTID=01,RECONID=MYRECON1							00121641
	VERSION=(-3,0),MAXREPORTS=20,DBD=SY12							00121747
1Act	Product	Report	DBD	Area/Part	DD	Recon ID	IMS ID	Grp Type Grp Name
PRT	IMS RSP	DRFXF SUMMARY	SY12	ITKBPR12	SYSP12	MYRECON1	IT02	
PRT	IMS RSP	DRFXF SUMMARY	SY12	ITKBPR12	SYSP12	MYRECON1	IT02	
PRT	IMS RSP	DRFXF SUMMARY	SY12	ITKBPR12	SYSP12	MYRECON1	IT02	
PRT	IMS RSP	DRFXF SUMMARY	SY12	ITKBPR12	SYSP12	MYRECON1	IT02	
	IMS RSP	DRFXF SUMMARY	SY12	ITKBPR12	SYSP12	MYRECON1	IT02	
	IMS RSP	DRFXF SUMMARY	SY12	ITKBPR12	SYSP12	MYRECON1	IT02	
0	HKT2201I HKTJEXPT ended with RC=0000							



# Chapter 9. Product administration

For product administration tasks, use options from the **Administration** menu of the IMS Tools Knowledge Base main menu.

## Topics:

- [“Removing a product” on page 87](#)
- [“Removing a product release” on page 88](#)
- [“Removing all subscriptions and reports for a product” on page 90](#)

## Removing a product

You can select a product and remove all of its releases, subscriptions, and reports from the IMS Tools Knowledge Base environment.

### Procedure

To remove a product from the IMS Tools Knowledge Base environment, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

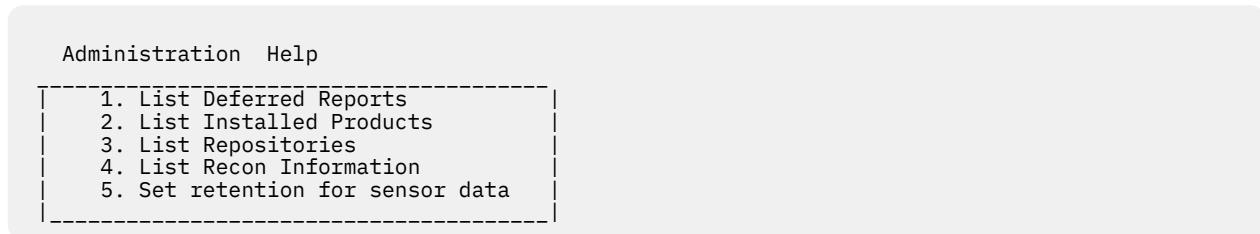


Figure 60. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

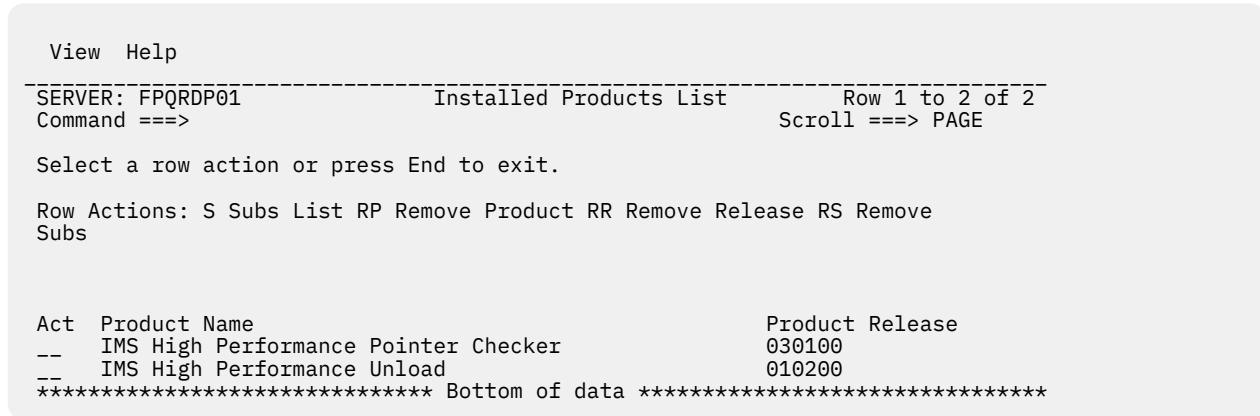


Figure 61. Installed Products List panel

3. Use the **Remove Product** row action (RP) for the appropriate product to remove all of its releases, subscriptions, and reports from the environment. Press Enter.

The **Confirm Remove Product** message is displayed.

For example:

```
Confirm remove product
Removing this product will DELETE ALL it's saved reports.
NO further reports can be recorded for this product.
Press Enter to continue or End to exit.

Product name
IMS HIGH PERFORMANCE POINTER CHECKER

Remove product . . N Y or N
```

*Figure 62. Confirm Remove Product message*

4. To remove this release of the product, enter Y and press Enter.

The **Confirm Remove Subscription and Reports** message is displayed.

For example:

```
Confirm remove subscription and reports.

If there are a lot of report subscriptions to remove then
the TSO session could be locked for some time.

Press Enter to continue or End to exit.

Product name
IMS HIGH PERFORMANCE POINTER CHECKER
Product release
030100

Report count . . . . : : : : 12
Remove subscriptions : : : : N Y or N
```

*Figure 63. Confirm Remove Subscription and Reports message*

5. Enter Y and press Enter.

The **Installed Products List** is refreshed and the product no longer appears in the list.

## Removing a product release

You can remove a specific release of a product from the IMS Tools Knowledge Base environment.

### About this task

If the release is the only instance of the product remaining in the environment, then the Remove Product (RP) action is performed.

### Procedure

To remove a product release from the IMS Tools Knowledge Base environment, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

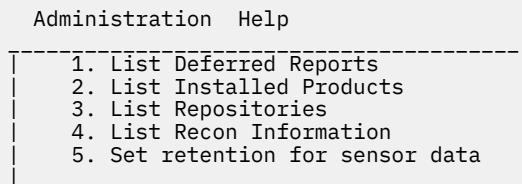


Figure 64. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

The **Product/Release** column shows the version, release, and modification values for each installed product.

For example:

```

View Help
----- SERVER: FPQRDP01 ----- Installed Products List ----- Row 1 to 2 of 2
Command ==>                                         Scroll ==> PAGE

Select a row action or press End to exit.

Row Actions: S Subs List RP Remove Product RR Remove Release RS Remove
Subs

Act  Product Name          Product Release
--  IMS Database Reorganization Expert  040100
--  IMS High Performance Pointer Checker 030100
--  IMS High Performance Unload  010200
***** Bottom of data *****
```

Figure 65. Installed Products List panel

3. Use the **Remove Release** row action (RR) for the appropriate product to remove a specific product release from the environment. Press Enter.

The selected product is removed from the list immediately.

If only one release of the product is found, the following message is displayed:

For example:

```

Only one Release found for this Product.

Press Enter to remove the Product or End to exit.

Product name
IMS HIGH PERFORMANCE POINTER CHECKER
Product release
030100

Remove product . . . . . N Y or N
```

Figure 66. Only One Release Found for This Product message

4. To remove this release of the product, enter Y and press Enter.

The **Installed Products List** is refreshed and the product release is no longer displayed in the list.

# Removing all subscriptions and reports for a product

You can select a product and remove all its subscriptions and reports from the IMS Tools Knowledge Base environment.

## Procedure

To remove all subscriptions and reports for a product from the IMS Tools Knowledge Base environment, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

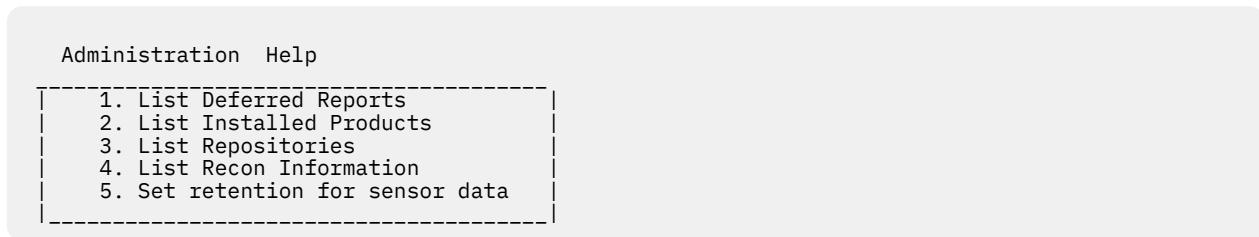


Figure 67. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

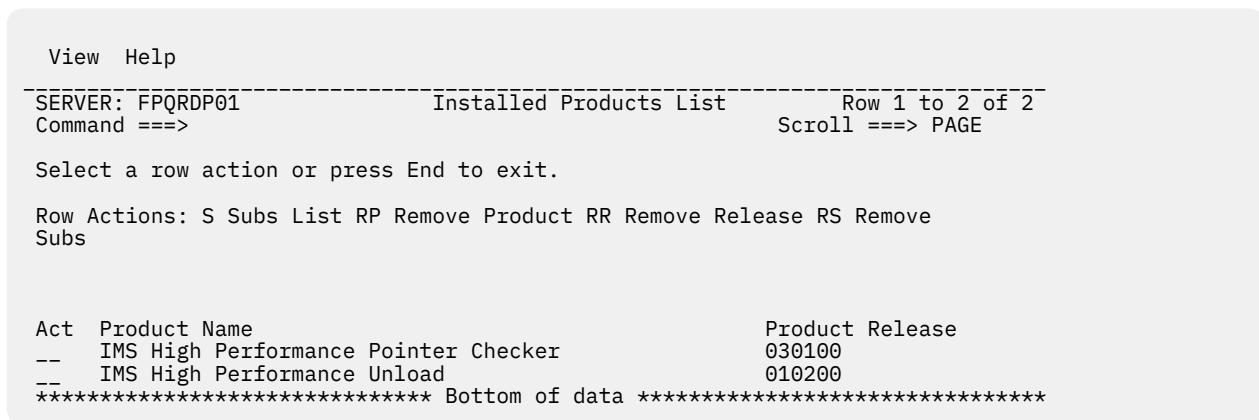


Figure 68. Installed Products List panel

3. Use the **Remove Subscriptions (Subs)** row action (RS) for the appropriate product (and release) to remove all of its subscriptions and reports from the environment. Press Enter.

The **Confirm Remove Subscription and Reports** message is displayed.

For example:

```
Confirm remove subscription and reports.  
If there are a lot of report subscriptions to remove then  
the TSO session could be locked for some time.  
Press Enter to continue or End to exit.  
Product name  
IMS HIGH PERFORMANCE POINTER CHECKER  
Product release  
030100  
Report count . . . . : . . . : 12  
Remove subscriptions : . . . . N Y or N
```

*Figure 69. Confirm Remove Subscription and Reports message*

The confirmation message identifies the product, its release, and its report count. You can either cancel or continue the action.

4. To remove all subscriptions and reports for this product (and release), enter Y and press Enter.

The **Installed Products List** is refreshed.



# Chapter 10. Report administration

For report administration tasks, use options from the **Administration** menu of the IMS Tools Knowledge Base main menu.

## Topics:

- [“Report retention overview” on page 93](#)
- [“Changing the default report retention values” on page 94](#)
- [“Changing the retention values for individual reports” on page 95](#)
- [“Resetting report retention values to the product default” on page 97](#)
- [“Synchronizing the repository with displayed retention values” on page 99](#)
- [“Enabling and disabling report recording” on page 100](#)

## Report retention overview

IMS Tools Knowledge Base retains old versions of your reports for historical reference.

IMS Tools products in the IMS Tools Knowledge Base environment can produce many different reports. These reports are saved and indexed by the product ID, report ID, and various other values that identify the database, area or partition, and data set that are the subject of the report.

When an IMS Tools product generates the same report for the same resource, the new report can either replace the previous report (history disabled) or be added to a series of reports that includes the current report and one or many history reports (history enabled).

The values for the following parameters determine how long reports are retained:

### **DAYs=value**

The minimum number of days that a report must be stored in the repository before it can be deleted. Valid values are 0 - 32767.

### **VERSIONs=value**

The minimum number of reports of a specified index value that must be stored in the repository before any reports can be deleted. Valid values are 0 - 32767.

When a new report is generated, the retention status is evaluated against any existing reports that contain the same index value. Reports that exceed both the minimum number of days and the minimum number of versions are deleted.

Most IMS Tools contain a default retention period of DAYS=30, VERSIONS=7. These defaults are based on the assumption that the customer reports for a given database are generated every two to four days at most. With a default retention period of 30 days and 7 versions, generating reports every two to four days over a 30 day period would result in 7 to 15 saved reports. With that same retention period, generating reports once or twice a week for a 30-day period would result in 4 to 7 saved reports. Depending on your environment, you might need to change the default retention period of the product or the product reports.

If you want the DAYS=value or VERSIONS=value to be the critical retention period, set one of the retention values to zero, as shown in the following example:

- To retain history for four days but not track the number of versions, set DAYS=4, VERSIONS=0.

By using these settings, the reports for a database are retained for four days. The number of versions has no impact.

- To retain the history of four consecutive versions but not track the number of days, set DAYS=0, VERSIONS=4.

By using these settings, the reports for a database retained for four versions. The number of days has no impact.

If the generated reports are a mixture of daily, weekly, and monthly critical retention values, consider allocating multiple output repository data sets and as follows:

- Repository 00000000: Configure products to generate reports to output repository 00000000 with a set of retention values where the number of days is the critical value
- Repository 00000001: Configure products to generate reports to output repository 00000001 with a set of retention values where the number of weeks is the critical value
- Repository 00000002: Configure products to generate reports to output repository 00000002 with a set of retention values where the number of months is the critical value

In the following example, a report has a retention setting of DAYS=7, VERSIONS=7:

- If you run the same report for a resource once per day, seven history versions of the report are retained.
- If you run the same report for the same resource two times per day, 14 history versions of the report are retained, and the oldest version is seven days old.
- If you run the same report for the same resource once per week, seven history versions of the report are retained, and the oldest version is seven weeks old.

A retention setting of DAYS=0, VERSIONS=0 results in no retention of reports with the same index value. Only the current report is retained.

The retention period of DAYS=*value*, VERSIONS=*value* is an *and* condition, not an *or* condition. No reports are deleted unless both of the following conditions are met:

- The number of days the oldest report has been stored in the repository exceeds the DAYS *value*
- The number of report versions stored in the repository exceeds the VERSIONS *value*

## Changing the default report retention values

Report retention settings are applied to all reports to control the growth of the report repository.

### About this task

The retention values for a product's reports are provided by the product definition table when the product is registered with IMS Tools Knowledge Base.

This topic explains how you can change the product's default report retention values.

You can also change the retention values on a per-report basis. See [“Changing the retention values for individual reports” on page 95](#).

### Procedure

To change the product's default report retention values, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

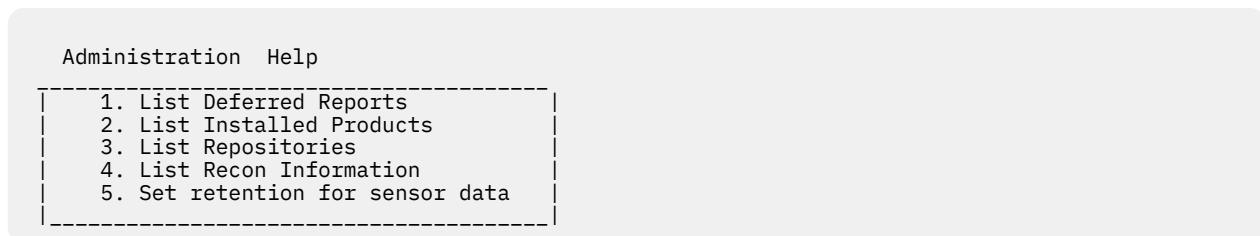


Figure 70. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

```
View Help
----- SERVER: FPQRDP01           Installed Products List      Row 1 to 2 of 2
Command ===>                               Scroll ===> PAGE

Select a row action or press End to exit.

Row Actions: S Subs List RP Remove Product RR Remove Release RS Remove
Subs

Act  Product Name          Product Release
--  IMS High Performance Pointer Checker  030100
--  IMS High Performance Unload          010200
***** Bottom of data *****
```

Figure 71. Installed Products List panel

3. Use the **Subscriptions (Subs)** List row action (S) for the appropriate product to list all of the report subscriptions that are defined to the product. Press Enter.

The **Report Subscription List** panel is displayed.

For example:

```
Global Actions View Help
----- SERVER: FPQRDP01           Report Subscriptions List      Row 1 to 16 of 20
Command ===>                               Scroll ===> PAGE

Select a row action or press End to exit.

Row actions: U Update

Product Name . . : IMS High Performance Pointer Checker
Product Release : 030100

----- Retention -----
Act Report Title          Days  Versions Default Record Repository
-- ** PRODUCT DEFAULTS **  5      1          Y          Y          00000000
-- PC-BIT MAP DISPLAY     5      1          Y          Y          N/A
-- PC-BLOCK MAP AND DUMP  5      1          Y          Y          N/A
-- PC-DB RECORD DIST      5      1          Y          Y          N/A
-- PC-DB STAT              5      1          Y          Y          N/A
-- PC-ENVIRONMENT          5      1          Y          Y          N/A
```

Figure 72. Report Subscriptions List panel

The first row contains the product defaults for report retention and report recording.

4. Use the **Update** row action (U) on the **PRODUCT DEFAULTS** row and change the retention values for **Days** and **Versions** as required. Press Enter.

All retention settings for reports with a Default setting of Y will change to the new default values.

## Changing the retention values for individual reports

Report retention settings are applied to all reports to control the growth of the report repository.

### About this task

The retention values for a product's reports are provided by the product Definition Table when the product is registered with IMS Tools Knowledge Base.

You can change the product's default report retention values. See [“Changing the default report retention values” on page 94](#).

This topic explains how to change the retention values on a per-report basis.

## Procedure

To change the retention values for individual reports, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

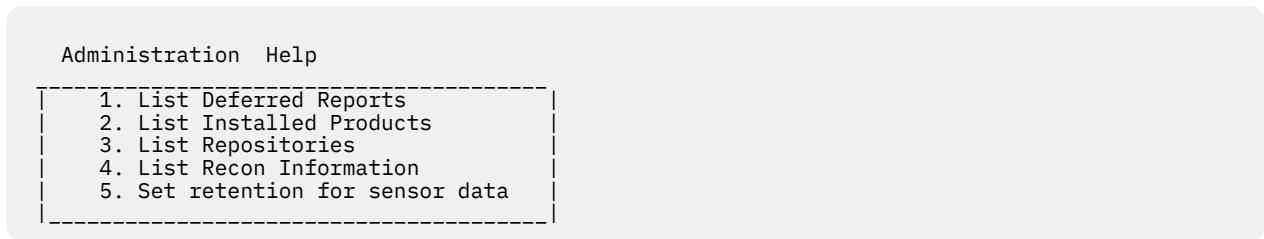


Figure 73. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

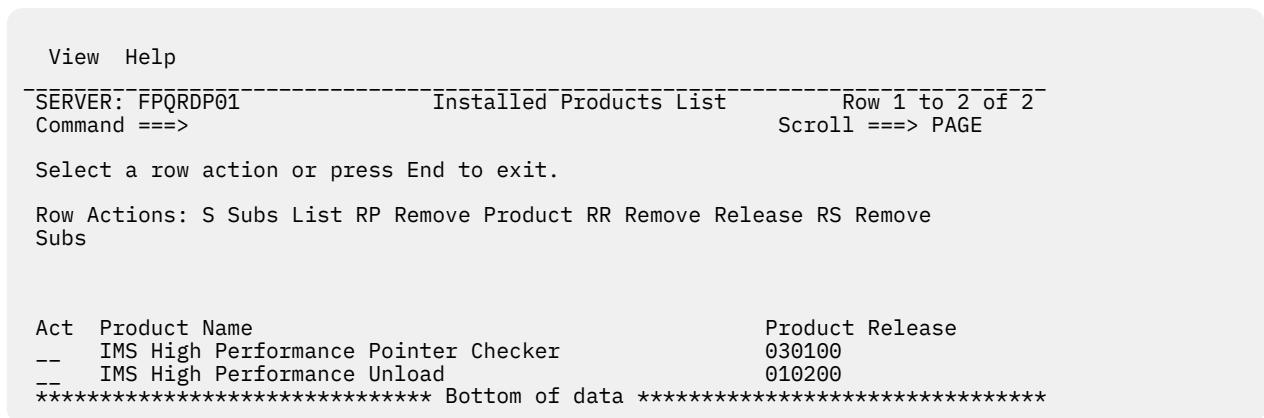


Figure 74. Installed Products List panel

3. Use the **Subscriptions (Subs)** List row action (S) for the appropriate product to list all of the report subscriptions that are defined to the product. Press Enter.

The **Report Subscription List** panel is displayed.

For example:

```

Global Actions View Help
SERVER: FPQRDP01 Report Subscriptions List Row 1 to 16 of 20
Command ===> Scroll ===> PAGE

Select a row action or press End to exit.

Row actions: U Update

Product Name . . : IMS High Performance Pointer Checker
Product Release : 030100

----- Retention -----
Act Report Title Days Versions Default Record Repository
-- ** PRODUCT DEFAULTS ** 5 1 Y Y 00000000
-- PC-BIT MAP DISPLAY 5 1 Y Y N/A
-- PC-BLOCK MAP AND DUMP 5 1 Y Y N/A
-- PC-DB RECORD DIST 5 1 Y Y N/A
-- PC-DB STAT 5 1 Y Y N/A
-- PC-ENVIRONMENT 5 1 Y Y N/A

```

Figure 75. Report Subscriptions List panel

The first row contains the product defaults for report retention and report recording.

4. Use the **Update** row action (U) on a specific report and change the retention values for **Days** and **Versions** as required. Press Enter.

The panel is refreshed and shows the new retention values for the report. The Default setting for the report is automatically changed to N.

5. Perform the same task for all other reports that require customized retention settings.

## Resetting report retention values to the product default

You can reset the retention values on all of the reports for a product to the product's default retention values.

### About this task

The retention values for a product's reports are provided by the product definition table when the product is registered with IMS Tools Knowledge Base.

You can then change the retention values on individual reports. This task allows you to immediately reset the retention for all reports to the default settings.

### Procedure

To reset the retention values on all reports for a product to the product's default values, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

```

Administration Help
----- 1. List Deferred Reports
----- 2. List Installed Products
----- 3. List Repositories
----- 4. List Recon Information
----- 5. Set retention for sensor data

```

Figure 76. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

```
View Help
----- SERVER: FPQRDP01           Installed Products List      Row 1 to 2 of 2
Command ===>                               Scroll ===> PAGE

Select a row action or press End to exit.

Row Actions: S Subs List RP Remove Product RR Remove Release RS Remove
Subs

Act  Product Name          Product Release
--  IMS High Performance Pointer Checker  030100
--  IMS High Performance Unload          010200
***** Bottom of data *****
```

Figure 77. Installed Products List panel

3. Use the **Subscriptions (Subs)** List row action (S) for the appropriate product to list all of the report subscriptions that are defined to the product. Press Enter.

The **Report Subscriptions List** panel is displayed.

For example:

```
Global Actions View Help
----- SERVER: FPQRDP01           Report Subscriptions List      Row 1 to 16 of 20
Command ===>                               Scroll ===> PAGE

Select a row action or press End to exit.

Row actions: U Update

Product Name . . : IMS High Performance Pointer Checker
Product Release : 030100

----- Retention -----
Act Report Title      Days  Versions Default Record Repository
-- ** PRODUCT DEFAULTS **  5      1          Y          Y          00000000
-- PC-BIT MAP DISPLAY  5      1          Y          Y          N/A
-- PC-BLOCK MAP AND DUMP 5      1          Y          Y          N/A
-- PC-DB RECORD DIST   5      1          Y          Y          N/A
-- PC-DB STAT          5      1          Y          Y          N/A
-- PC-ENVIRONMENT       5      1          Y          Y          N/A
```

Figure 78. Report Subscriptions List panel

4. From the **Global Actions** menu, select option 1 (**RESET all retentions to product defaults**).

For example:

```
Global Actions View Help
----- 1. RESET all retentions to product defaults
          2. SYNC synchronise repository with displayed retention values -----
```

Figure 79. Global Actions menu options

5. Press Enter.

The panel is refreshed and shows the default product retention values applied to all reports.

# Synchronizing the repository with displayed retention values

The retention values that are set for reports are automatically conveyed to the IMS Tools Knowledge Base Output repository where reports are stored.

## About this task

Scenarios are possible in which the retention values that are displayed in the **Report Subscriptions List** are not synchronized with the values that are recognized by the repository. Some possible examples include:

- The repository database is deleted and reformatted
- The repository is not available on the network when retention values are conveyed

You can ensure that the displayed retention values are the same as the values that are recognized by the repository by manually performing the synchronization task.

## Procedure

To manually synchronize the repository with displayed retention values, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:



Figure 80. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

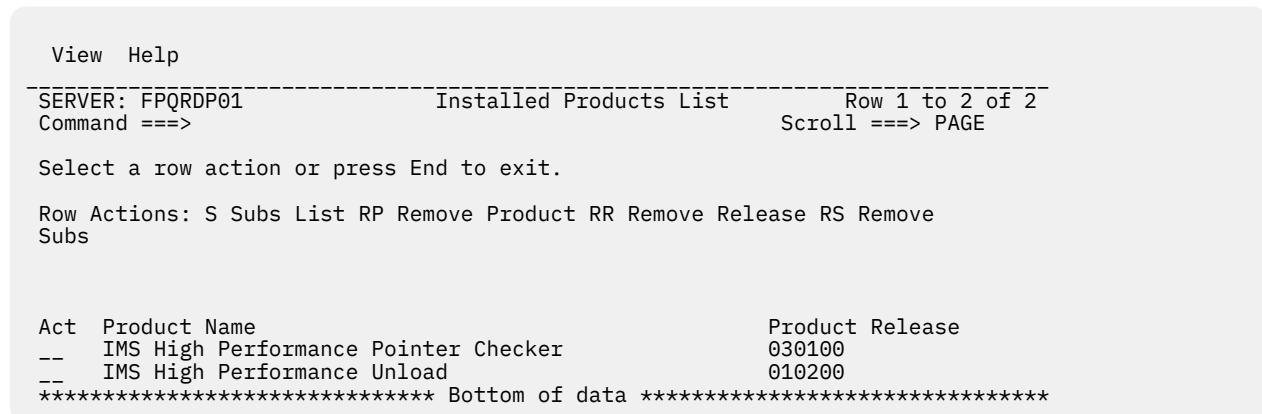


Figure 81. Installed Products List panel

3. Use the **Subscriptions (Subs)** List row action (S) for the appropriate product to list all report subscriptions that are defined to the product. Press Enter.

The **Report Subscriptions List** panel is displayed.

For example:

```

Global Actions View Help
SERVER: FPQRDP01 Report Subscriptions List Row 1 to 16 of 20
Command ===> Scroll ===> PAGE

Select a row action or press End to exit.

Row actions: U Update

Product Name . . : IMS High Performance Pointer Checker
Product Release : 030100

----- Retention -----
Act Report Title Days Versions Default Record Repository
-- ** PRODUCT DEFAULTS ** 5 1 Y Y 00000000
-- PC-BIT MAP DISPLAY 5 1 Y Y N/A
-- PC-BLOCK MAP AND DUMP 5 1 Y Y N/A
-- PC-DB RECORD DIST 5 1 Y Y N/A
-- PC-DB STAT 5 1 Y Y N/A
-- PC-ENVIRONMENT 5 1 Y Y N/A

```

Figure 82. Report Subscriptions List panel

4. From the **Global Actions** menu, select option 2 (**SYNC synchronize repository with displayed retention values**).

For example:

```

Global Actions View Help
| 1. RESET all retentions to product defaults
| 2. SYNC synchronize repository with displayed retention values |
-----
```

Figure 83. Global Actions menu options

5. Press Enter.

The **Report Subscriptions List** panel is refreshed.

## Enabling and disabling report recording

You can enable or disable the automatic recording of reports to the IMS Tools Knowledge Base repository on a report-by-report basis.

### About this task

The default record value for a product's reports are provided by the product definition table when the product is registered with IMS Tools Knowledge Base. After initial registration, all reports that are associated with that product are set with these values.

This topic explains how to change the record values on a per-report basis.

### Procedure

To change the retention values for individual reports, complete the following steps:

1. Access the **Administration** menu from the IMS Tools Knowledge Base main menu panel.

For example:

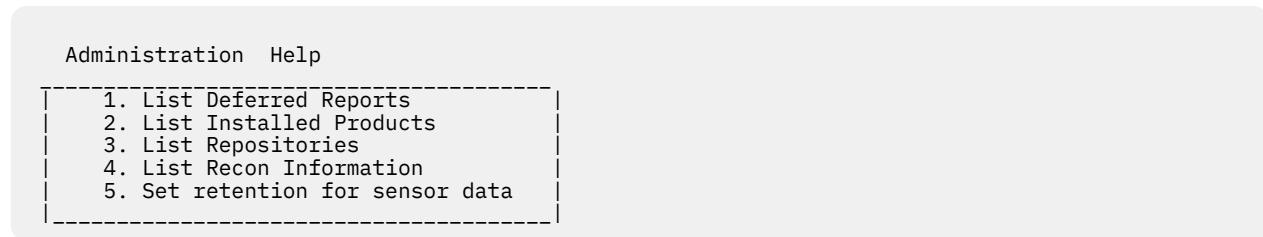


Figure 84. Administration menu options

2. Select option 2 (**List Installed Products**). Press Enter.

The **Installed Products List** panel is displayed.

For example:

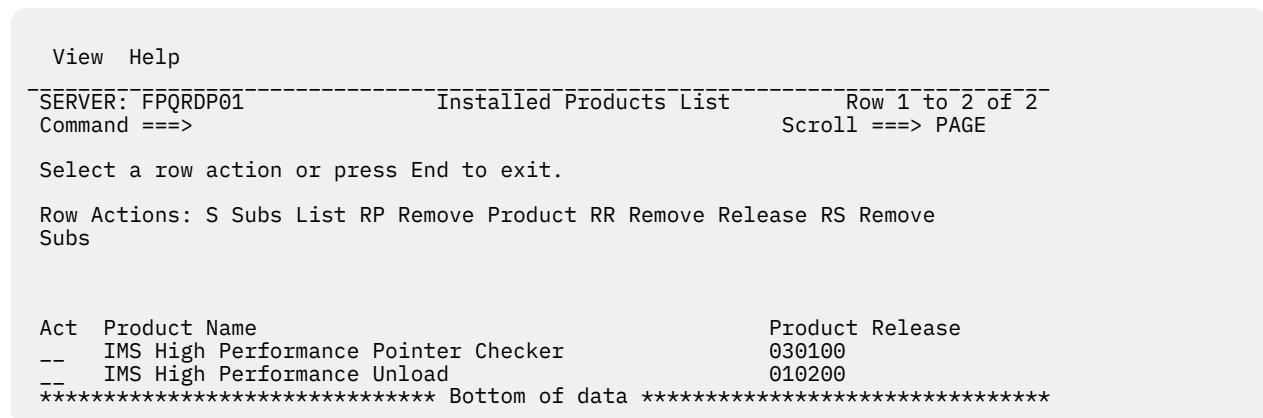


Figure 85. Installed Products List panel

3. Use the **Subscriptions (Subs)** List row action (S) for the appropriate product to list all report subscriptions that are defined to the product. Press Enter.

The **Report Subscriptions List** panel is displayed.

For example:

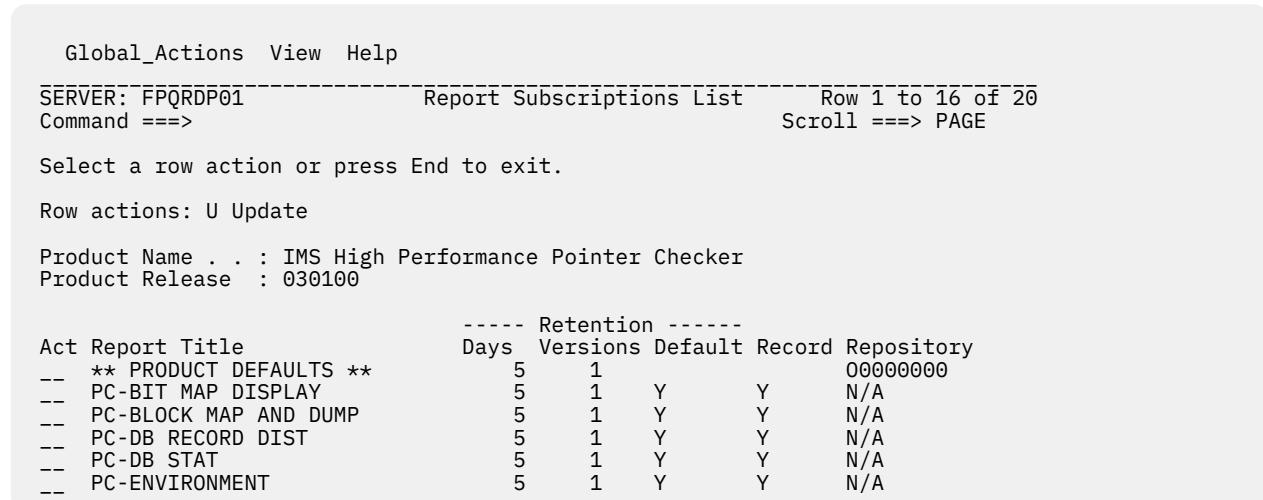


Figure 86. Report Subscriptions List panel

4. Use the **Update** row action (U) on a specific report and change the value for **Record** to N to not record reports or to Y to record reports. Press Enter.

The panel is refreshed and shows the new Record values for the report.

5. Perform the same task for all other reports that require customized Record settings.



## Part 4. Database data sets display services reference

The database data sets (DBDS) display services enable you to view IMS DBDS reports, which show various information about database data sets, through the ISPF user interface.

IMS DBDS reports are generated based on collected sensor data. Therefore, before IMS DBDS reports can be viewed, sensor data must be collected by DB Sensor and must be exported to CSV files by using the Data Publisher Utility of IMS Tools Knowledge Base.

**Topics:**

- [Chapter 11, “Preparing for IMS DBDS reports,” on page 105](#)
- [Chapter 12, “IMS DBDS report reference,” on page 107](#)



# Chapter 11. Preparing for IMS DBDS reports

The data source for IMS DBDS reports is the CSV files that contain sensor data. To display IMS DBDS reports, you must run the Data Publisher utility to export sensor data to CSV files, start the DBDS report and exceptions service user interface, and supply the name of the CSV files.

## Procedure

1. Export sensor data to CSV files by using the Data Publisher utility.

For information about running the Data Publisher Utility, see [Chapter 15, “Data Publisher Utility,” on page 141](#).

CSV files must be generated for IMSDBSTAT and IMSDSSTAT data streams with the following options:

- **TIMESTAMP(LATEST)** option
- Default values for the **DELIMITERS** keyword, which are **DELIMITERS(COLDEL(X'6B') DECPT(X'48'))**

The following figure shows a JCL example for the Data Publisher Utility.

```
//PGM1 EXEC PGM=HKTUTIL0,PARM='FUNC=PUBLISH_SENSOR'  
//STEPLIB DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBCSV DD DSN=ITB.CSV.IMSDB,  
//          DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//          DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDSCSV DD DSN=ITB.CSV.IMSDS,  
//          DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//          DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//HKTUJRN1 DD SYSOUT=*<br/>/<br/>//HKTSYSIN DD *  
  OUTPUT_TYPE(CSV)  
  ITKBSRVR(FPQSRV01)  
  TIMESTAMP(LATEST,TIMEZONE(LOCAL))  
  CSV(IMSDBSTAT IMSDSSTAT)  
  CSV_HEADER(YES)  
  DELIMITERS(COLDEL(X'6B') DECPT(X'4B'))  
/*
```

2. Start the IMS DBDS report and exceptions service user interface.

- a) In the **ISPF Primary Option Menu** panel, select option 6 (**Command**) and press Enter.
- b) In the **ISPF Command Shell** panel, start the IMS DBDS report and exceptions service user interface by using one of the following methods:
  - To access from the IMS Tools Base main menu, enter EX '*hlq.SHKTCEXE(HKTAPPL)*' '*HLQ(hlq)*'. Then, in the IMS Tools Base main menu, select option 4 (**DBDS report and exceptions**) and press Enter.
  - To access the interface directly, enter EX '*hlq.SHKTCEXE(HKTFZPRM)*' '*HLQ(hlq)*' and press Enter.

Where *hlq* is the high-level qualifier of the installation data set.

3. Specify the names of the data sets where the CSV files are stored.

- a) In the **View DBDS Size Report** main menu panel, select option 0 and press Enter.
- b) In the **Settings** panel, enter the data set names where the CSV files for IMSDBSTAT and IMSDSSTAT data streams are stored. Then press Enter.



# Chapter 12. IMS DBDS report reference

The database data sets display services user interface provides extensive and flexible search capabilities to quickly locate the database data set information that you require. Learn about the features and functions that help optimize your search efficiency.

To display the IMS DBDS report, start the DBDS report and exceptions service user interface. Then select option 1 and press Enter.

**Note:** Before you can access an IMS DBDS report, you must complete the steps in [Chapter 11, “Preparing for IMS DBDS reports,” on page 105](#).

**Tip:** IMS Tools Base CSETUP functionality enables you to manipulate the column display. For more information, see [Chapter 26, “Column display functions,” on page 307](#).

IMS DBDS Report													
ROW 1 OF 12251 +>													
Scroll ==> PAGE													
Help	Part	Access	DS	Block	Max	Max	RBA	High	RBA	High			
		Method	Org	Size	Max	Pct	Alloc		Used				
A	Timestamp	DB Name	Name	DD Name	DSID	Database Type	OSAM	OSAM	1,690	8G	0%	1,188KB	594KB
-	2025-02-20	AUTODB		DFSDLR	DS01	HDAM	OSAM	KSDS	4,096	4G	2%	72,000KB	720KB
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01X	PRIM	PHIDAM	OSAM	OSAM	4,096	4G	2%	72,000KB	32KB
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01	DSGA	PHIDAM	OSAM	OSAM	4,096	4G	2%	216,000KB	228KB
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01B	DSGB	PHIDAM	OSAM	OSAM	4,096	4G	5%	360,000KB	1,556KB
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01	DSGC	PHIDAM	OSAM	OSAM	4,096	4G	9%	72,000KB	12KB
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01D	DSGD	PHIDAM	OSAM	OSAM	4,096	4G	2%	72,000KB	720KB
-	2025-02-20	DFSCX000	DFSCX01	DFSCX01A	DSGA	PSINDEX	VSAM	KSDS	4,096	4G	2%	72,000KB	1,556KB
-	2025-02-20	EMPDB2		DFSEMPL	DS01	HDAM	OSAM	OSAM	1,690	8G	0%	1,188KB	594KB
-	2025-02-20	F101PA	F101PA1	DS01	HIDAM		OSAM	OSAM	8,192	8G	0%	720KB	16KB
-	2025-02-20	F101PD	F101PD1	DS01	HIDAM		OSAM	OSAM	8,192	8G	0%	720KB	16KB
-	2025-02-20	F101PG	F101PG1	DS01	HIDAM		OSAM	OSAM	8,192	8G	0%	720KB	16KB
-	2025-02-20	F101PJ	F101PJ1	DS01	HIDAM		OSAM	OSAM	8,192	8G	0%	720KB	16KB
-	2025-02-20	F101PS	F101PS1	DS01	HIDAM		OSAM	OSAM	8,192	8G	0%	720KB	16KB
-	2025-02-20	F101XA	F101XA1	PRIM	HIDAM_PRIMARY_INDEX		VSAM	KSDS	1,024	4G	0%	495KB	495KB
-	2025-02-20	F101XD	F101XD1	PRIM	HIDAM_PRIMARY_INDEX		VSAM	KSDS	1,024	4G	0%	495KB	495KB
-	2025-02-20	F101XG	F101XG1	PRIM	HIDAM_PRIMARY_INDEX		VSAM	KSDS	1,024	4G	0%	495KB	495KB

Figure 87. IMS DBDS Report

## Information displayed in the report

You can find the following columns in an IMS DBDS report.

Table 24. Job and step selection criteria descriptions

Column name	Description	Data element name
Timestamp	The date the sensor data was stored.	None
DB Name	The name of the database.	None
Part Name	The name of the HALDB partition.	None
DD Name	The name of the DD for the data set.	None
DSID	The name of the data set ID.	None
Database Type	The type of database organization.	DB_DATABASE_TYPE
Access Method	The operating system access method for the database.	DB_ACCESS_METHOD
DS Org	The organization type of the data set.	DB_DS_ORG or DBX_DS_ORG
Block Size	The CI size of VSAM or the block size of OSAM.	DB_BLOCK_SIZE or DBX_BLOCK_SIZE
Max Size	The maximum size of the data set.	DB_MAX_DS_SIZE or DBZ_MAX_DS_SIZE

Table 24. Job and step selection criteria descriptions (continued)

Column name	Description	Data element name
Max Pct	The percentage of allocated bytes in the maximum size.	DB_PCT_OF_MAX_DS_SIZE or DBX_PCT_OF_MAX_DS_SIZE
RBA High Alloc	The highest value of the relative byte address that is allocated for the data set.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_RBA_HIGH_ALLOC or DBX_RBA_HIGH_ALLOC
RBA High Used	The highest value of the relative byte address that is used for the data set.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_RBA_HIGH_USED or DBX_RBA_HIGH_USED
Unused Bytes	The size of free space in the database data set.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_UNUSED_BYTES or DBX_UNUSED_BYTES
Number of EXT	The maximum number of extents that can be allocated under the limitation of the access method defined for this data set.	DB_NUM_EXT or DBX_NUM_EXT
MaxNum of EXT	The maximum number of extents for the data set, which is limited by the access method.	DB_MAX_EXT_DS or DBX_MAX_EXT_DS
Bytes Seg	The total bytes of segment occurrences in the data set.	DB_BYTES_SEG
Free Space Bytes	The total bytes of free spaces.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_BYTES_FREE_SPACE
Unidentified Bytes	The total slack bytes in the data set. A slack byte is a byte of disk space that cannot hold IMS data.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_BYTES_UNIDENTIFIED
Free Pct	The percentage of bytes of total free spaces compared to the total used bytes for the data set.	DB_PCT_BYTES_FREE_SPACE
Seg Pct	The percentage of segment occurrences compared to the total bytes of used blocks in the data set.	DB_PCT_BYTES_SEG
Segment Number	The number of segment occurrences in the data set.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_NUM_SEG
VL Segment Number	The number of variable-length segment occurrences in the data set.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_NUM_VLSEG

Table 24. Job and step selection criteria descriptions (continued)

Column name	Description	Data element name
VL Segment Split Num	<p>The number of split segment occurrences in the data set.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_NUM_VLSEG_SPLIT
Vlseg Pct	<p>The percentage of the split variable-segment occurrences compared to the total number of variable-segment occurrences in the data set.</p>	DB_PCT_NUM_VLSEG_SPLIT
Unidentified Number	<p>The number of slack byte areas in the data set. These areas consist of 7 or fewer slack bytes and cannot hold IMS data.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_NUM_UNIDENTIFIED
Unidentified Num Avg	<p>The average number of slack byte areas, per block or CI, in the data set. Slack byte areas cannot hold IMS data.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_AVG_NUM_UNIDENTIFIED
FSE Num	<p>The number of free space elements in the data set.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_NUM_FSE
FSE Num Avg	<p>The average number of free space elements, per block or CI, in the data set.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_AVG_NUM_FSE
FSE Num Min	<p>The number of free space elements that can hold the smallest segment in the data set.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_NUM_FSE_MIN
FSE Num Max	<p>The number of free space elements that can hold the largest segment in the data set.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_NUM_FSE_MAX
FSE Noreuse Avg	<p>The average number, per block or CI, of free space elements whose lengths are less than the smallest segment in the data set.</p> <p>The value is expressed in kilobytes (1 KB equals 1024 bytes).</p>	DB_AVG_NUM_NOREUSE_FSE
FSE Noreuse Pct	<p>The percentage of free space elements that cannot hold the smallest segment in the data set.</p>	DB_PCT_NUM_NOREUSE_FSE

Table 24. Job and step selection criteria descriptions (continued)

Column name	Description	Data element name
FSE Fragd Avg	The average number of free space elements, per block or CI, that cannot hold the largest segment.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_AVG_NUM_FRAGD_FSE
FSE Fragd Pct	The percentage of free space elements that cannot hold the largest segment in the data set.	DB_PCT_NUM_FRAGD_FSE
Pointer Number	The number of used physical pointers that point to target segments within the data set. A used physical pointer indicates a physical pointer with nonzero value.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_NUM_PTR
Pointer Diff Blk Num	The number of physical pointers that point to the target segments on a different block or CI within the data set.  The value is expressed in kilobytes (1 KB equals 1024 bytes).	DB_NUM_PTR_DIFF_BLK
Diff Pct	The percentage of physical pointers that point to a different block or CI compared to the used physical pointers.	DB_PCT_NUM_PTR_DIFF_BLK
RECONID	The name of the RECON ID.	None
Timestamp	The date and time the sensor data was stored.	None
Data Set Name	The name of the data set.	DB_DS_NAME or DBX_DS_NAME

## ISPF panel features and functions

The following features and functions are supported for the **IMS DBDS Report** panel.

### Row actions

- /: Shows column values for the selected row. See “[Displaying column values for a specific data set](#)” on page 113.
- S: Displays the **Latest Sensor Data** panel. See “[Displaying latest sensor data](#)” on page 114.
- T: Displays the **Latest Sensor Data History** panel. See “[Displaying latest sensor data](#)” on page 114.

### Commands

- FIND: Finds the first matching data. See “[Finding specific data](#)” on page 111.
- FILTER: Sets the filtering options to further narrow down the list. See “[Filtering the data](#)” on page 112.
- CSETUP: Displays the CSETUP menu to customize the report. See [Chapter 26, “Column display functions,” on page 307](#).

### Scrolling

Data set information is displayed in multiple columns that extend beyond the width of your screen. Right and left scrolling is supported. Scroll right to see additional information about the data sets.

## Find

The find function, activated by entering FIND on the command line, positions the first matching data at the top of the display. The RFIND (repeat find) function key (F5) locates the next match.

For details, see [“Finding specific data” on page 111](#).

## Filter

The filter option, activated by entering FILTER on the command line, displays a **Filter Settings** panel where you can enter specific values that identify the data sets you require. The filter setting is saved in your profile.

The refreshed list of data sets limits the rows displayed to those data sets that match the filter criteria. All data sets not meeting the specified filter criteria are eliminated from the refreshed list of data sets.

For details, see [“Filtering the data” on page 112](#).

## Sort

The CSORT option, which is available from the CSETUP menu or activated by entering CSORT on the command line, sorts the rows. The sort setting is saved in your profile.

The CRESET option, which is available from the CSETUP menu, disables sorting and clears sort setting.

For details, see [“Sorting data \(CSORT\)” on page 314](#).

## Column fix

The CFIX option, which is available from the CSETUP menu or activated by entering CFIX on the command line, displays a **Define Fixed Columns** panel where you can specify to fix and unfix columns in the report. A fixed column is always located at the far left side of the report. It does not shift horizontally.

The CRESET option, which is available from the CSETUP menu, unfixes fixed columns.

For details, see [“Fixing columns \(CFIX\)” on page 308](#).

## Column order

The CORDER option, which is available from the CSETUP menu or activated by entering CORDER on the command line, displays a **Define Column Display Order** panel where you can specify the sequence the columns are displayed in. The customized column order setting is saved in your profile.

The CRESET option, which is available from the CSETUP menu, restores the original column sequence.

For details, see [“Repositioning columns \(CORDER\)” on page 310](#).

## Topics:

- [“Finding specific data” on page 111](#)
- [“Filtering the data” on page 112](#)
- [“Displaying column values for a specific data set” on page 113](#)
- [“Displaying latest sensor data” on page 114](#)

# Finding specific data

Use the FIND command to locate specific data in the IMS DBDS report. The FIND command positions the first matching data, whether partial or complete, from all columns at the top of the display, with horizontal scrolling to the matching column.

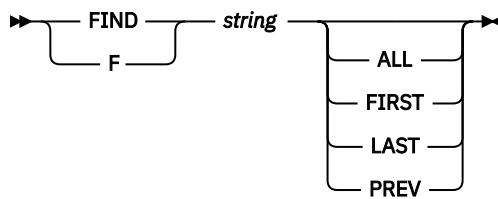
## Procedure

Enter FIND *string* or F *string* on the command line.

Use the RFIND function key (F5) to find the next match.

The FIND command supports location options as shown in the following syntax diagram.

### Syntax



### Example

By entering F PHIDAM ALL on the command line, the first occurrence matching PHIDAM is displayed. The number of matches is displayed on the upper right corner.

IMS DBDS Report										211 chars PHIDAM							
Command ==>										Scroll ==> PAGE							
A	Timestamp	DB	Name	Name	DD	DSID	Database	Type	Access	DS	Block	Max	Max	RBA	High	RBA	High
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01X	PRIM	PHIDAM			Method	Org	Size	Size	Pct	Alloc		Used	
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01A	DGSA	PHIDAM			OSAM	KSDS	4,096	4G	2%	72,000KB		720KB	
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01B	DGBT	PHIDAM			OSAM	OSAM	4,096	4G	2%	72,000KB		32KB	
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01C	DGSC	PHIDAM			OSAM	OSAM	4,096	4G	5%	216,000KB		228KB	
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01D	DGSD	PHIDAM			OSAM	OSAM	4,096	4G	9%	360,000KB		1,556KB	
-	2025-02-20	DFSCD000	DFSCD01	DFSCD01E	DGSD	PHIDAM			OSAM	OSAM	4,096	4G	2%	72,000KB		12KB	
-	2025-02-20	DFSCX000	DFSCX01	DFSCX01A	DGSA	PSINDEX			VSAM	KSDS	4,096	4G	2%	72,000KB		720KB	
-	2025-02-20	EMPDB2		DFSEMPL	DS01	HDAM			OSAM	OSAM	1,690	8G	0%	1,188KB		594KB	

## Filtering the data

Use the **Filter Settings** panel to narrow down the list of data sets in the IMS DBDS report.

### Procedure

Enter FILTER on the command line to display the **Filter Settings** panel. In the **Filter Settings** panel, set filtering options. Multiple filter conditions can be specified. If you specify multiple filter conditions, all the specified conditions are applied.

#### Oper field

- = equal to
- < less than
- > greater than
- <= less than or equal to
- >= greater than or equal to

#### Value field

For rows where the Oper field is set to an equal sign (=), specify alphanumeric characters. The asterisk (\*) is supported as the wildcard character, but it can only be used after an alphanumeric character.

For rows where the Oper field is empty, specify a numeric value.

### Example

To display only the information about data sets whose Percent of Max Size value is equal to or greater than 50%, specify the filtering option as follows:

Help		
HKTFPDSF		Filter Settings
Command ===>		
Enter comparison operators and values, or press F3/F12 to cancel changes.		
Column	Oper	Value
Timestamp	--	----- (yyyy-mm-dd)
DB Name	=	-----
Part Name	=	-----
DD Name	=	-----
DSID	=	-----
Database Type	=	-----
Access Method	=	-----
DS Org	=	-----
Block Size	--	-----
Max Size (GB)	--	-----
Max Size Percent	$\geq$	50
RBA High Alloc (KB)	--	-----
RBA High Used (KB)	--	-----
Unused Bytes (KB)	--	-----
Number of EXT	--	-----
Max Number of EXT	--	-----
Bytes Seg (KB)	--	-----
Free Space Bytes (KB)	--	-----
Unidentified Bytes(KB)	--	-----
Free Pct	--	-----
Seg Pct	--	-----
Segment Number (KB)	--	-----
Vlseg Num (KB)	--	-----
Vlseg Split Num (KB)	--	-----
Vlseg Pct	--	-----
Unidentified Num (KB)	--	-----
Unidentified Avg (KB)	--	-----
FSE Num (KB)	--	-----
FSE Num Avg (KB)	--	-----
FSE Num Min (KB)	--	-----
FSE Num Max (KB)	--	-----
FSE Noreuse Avg (KB)	--	-----
FSE Noreuse Pct	--	-----
FSE Fragd Avg (KB)	--	-----
FSE Fragd Pct	--	-----
PTR Num (KB)	--	-----
PTR Diff Blk Num (KB)	--	-----
PTR Diff Blk Pct	--	-----
RECONID	=	-----
Data Set Name	=	-----

## Displaying column values for a specific data set

Use the **Show Columns** panel to view details for a specific data set that you select in the IMS DBDS report.

### Procedure

Enter row action / on the row of the data set that you want to view.

In the **Show Columns** panel, Column shows the column names used in the IMS DBDS report, Value shows the corresponding value based on the data obtained from CSV files, and Data Element Name shows the name of the data element to which the value is stored.

Use F3 or F12 key to return to the IMS DBDS report.

### Example

The following figure shows an example of the **Show Columns** panel.

HKTFPDSC		Show Columns
Column	Value	Data Element Name
Timestamp	: 2025-02-20T01:29:49.059-05:00	
Database Name	: DFSCD000	
Partition Name	: DFSCD01	
DD Name	: DFSCD01A	
Data set ID	: DSGA	
DB Type	: PHIDAM	DB_DATABASE_TYPE
Access Method	: OSAM	DB_ACCESS_METHOD
Data set Org	: OSAM	DB_DS_ORG
Block Size	: 4,096	DB_BLOCK_SIZE
Max Size	: 4G	DB_MAX_DS_SIZE
Max Pct	: 2%	DB_PCT_OF_MAX_DS_SIZE
RBA High Alloc	: 73,728,000	DB_RBA_HIGH_ALLOC
RBA High Used	: 32,768	DB_RBA_HIGH_USED
Unused Bytes	: 73,695,232	DB_UNUSED_BYTES
Number of EXT	: 1	DB_NUM_EXT
Max Num of EXT	: 120	DB_MAX_EXT_DS
Bytes Seg	: 25,432	DB_BYTES_SEG
FreeSpace Bytes	: 2,926	DB_BYTES_FREE_SPACE
Unidentified Bytes	: 0	DB_BYTES_UNIDENTIFIED
Free Pct	: 9%	DB_PCT_BYTES_FREE_SPACE
Seg Pct	: 78%	DB_PCT_BYTES_SEG
Segment Number	: 78	DB_NUM_SEG
Vlseg Num	: 78	DB_NUM_VLSEG
Vlseg Split Num	: 0	DB_NUM_VLSEG_SPLIT
Vlseg Pct	: 0%	DB_PCT_NUM_VLSEG_SPLIT
Unidentified Num	: 0	DB_NUM_UNIDENTIFIED
Unidentified Num Avg	: 0.00	DB_AVG_NUM_UNIDENTIFIED
FSE Num	: 6	DB_NUM_FSE
FSE Num Avg	: 0.75	DB_AVG_NUM_FSE
FSE Num Min	: 2	DB_NUM_FSE_MIN
FSE Num Max	: 1	DB_NUM_FSE_MAX
FSE Noreuse Avg	: 0.50	DB_AVG_NUM_NOREUSE_FSE
FSE Noreuse Pct	: 67%	DB_PCT_NUM_NOREUSE_FSE
FSE Fragd Avg	: 0.63	DB_AVG_NUM_FRAGD_FSE
FSE Fragd Pct	: 83%	DB_PCT_NUM_FRAGD_FSE
Pointer Num	: 155	DB_NUM_PTR
Pointer Diff Blk Num	: 22	DB_NUM_PTR_DIFF_BLK
Pointer Diff Blk Pct	: 14%	DB_PCT_NUM_PTR_DIFF_BLK
RECONID	: RECON1	
Data Set Name	: IMS.IMS1.DFSCD000.A00001	

## Displaying latest sensor data

Use the Sensor Data Report and the Sensor Data History Report to view the latest sensor data and latest sensor history data for the database or HALDB partition that you select in the IMS DBDS report. The data source of this report is the information stored in the IMS Tools Knowledge Base repository, and this report is generated by the Sensor Data Extractor utility.

### Procedure

To display the latest sensor data, enter row action S on the row of the data set that you want to view. To display latest sensor history data, which shows results from up to five most recent sensor executions, enter row action T on the row of the data set that you want to view.

Use F3 or F12 key to return to the IMS DBDS report.

### Example

The following figure shows an example of the Sensor Data History Report.

```

Menu Utilities Compilers Help
ISRBROBA userid.IMSITKB.lpar.CMDOUT1                                         Line 0000000000 Col 001 132
Command ==> _____                                         Scroll ==> CSR
***** Top of Data *****                                         Page: 1
Tools Base Policy Services - V1R7          Sensor Data History Report
5655-V93                                         Date: 2025-02-20 Time: 04:24:00

Description of each data element can be referred to from the following URL:
https://www.ibm.com/docs/en/SSS8US\_1.7.0/aiips/topics/aiips\_policy-dataelement.htm

Partition Statistics (DBD: DFSCD000, Partition: DFSCD01, DB Type: PHIDAM)

=====
Data elements related to root segments
=====

Data Element Name 2025-02-20 01:29:49 2025-02-19 01:29:44 2025-02-18 01:29:41 2025-02-17 01:29:41 2025-02-16 01:29:41
----- -----
DB_NUM_ROOT          39          39          39          39          39
DB_FLAG_SENSOR_DBINFO  Y          Y          Y          Y          Y

=====
Data elements related to database records
=====

Data Element Name 2025-02-20 01:29:49 2025-02-19 01:29:44 2025-02-18 01:29:41 2025-02-17 01:29:41 2025-02-16 01:29:41
----- -----
DB_AVG_DBREC_LENGTH 39,516.46 39,516.46 39,516.46 39,516.46 39,516.46
DB_ESTIMATED_DBREC_IO 15.13    15.13    15.13    15.13    15.13

=====
Data elements related to event dates
=====

Data Element Name 2025-02-20 01:29:49 2025-02-19 01:29:44 2025-02-18 01:29:41 2025-02-17 01:29:41 2025-02-16 01:29:41
----- -----
DB_DAYS_SINCE_LAST_REORG n/a        n/a        n/a        n/a        n/a

=====
Data elements related to index
=====

Data Element Name 2025-02-20 01:29:49 2025-02-19 01:29:44 2025-02-18 01:29:41 2025-02-17 01:29:41 2025-02-16 01:29:41
----- -----
DBX_NUM_IPS          40          40          40          40          40

```



---

## Part 5. Utilities reference

The topics in this section provide information about the IMS Tools Knowledge Base utilities.

**Topics:**

- [Chapter 13, “IMS Tools Discovery Utility,” on page 119](#)
- [Chapter 14, “Import and Export Utility,” on page 121](#)
- [Chapter 15, “Data Publisher Utility,” on page 141](#)



# Chapter 13. IMS Tools Discovery Utility

You can use the IMS Tools Discovery Utility (HKTDDSC0) to create an inventory of IMS databases, programs, and DBRC groups in the IMS Tools Knowledge Base HKT\_INPUT repository.

The data stored in this inventory can be retrieved later by any IMS Tools product to perform its functions. Along with the RECON ID records that describe the IMS system libraries, the Discovery Utility inventory simplifies the configuration and customization tasks for IMS Tools products.

**Important:** To keep the data in the inventory up to date, this utility must be run after each DBDGEN, PSBGEN, or DBRC change for databases, programs, or groups.

## Using the Discovery Utility

You can run the Discovery Utility by modifying and submitting the JCL.

### Procedure

1. Copy the HKTDISCO member from *smphlq.SHKTSAMP* and modify it.

```
//HKTDISCO JOB <JOB CARD PARAMETERS>
//STEP1 EXEC PGM=HKTDDSC0,
//           PARM=( 'ITKBSRVR=yourITKBservername' ,
//                  'RECONID=yourRECONID' ,
//                  'FUNC=CREATE|DELETE' )
//STEPLIB  DD  DISP=SHR,DSN=smphlq.SHKTLOAD
//          DD  DISP=SHR,DSN=ims.reslib
//SYSPRINT DD  SYSOUT=*
//SYSABEND DD  SYSOUT=H
//
```

where:

***yourITKBservername***

The IMS Tools Knowledge Base server name that the utility uses to connect to and create the inventory. The *yourITKBservername* is the same as the name that is defined in the FPQCONFG member in *smphlq.SHKTSAMP* for the XCF\_GROUP\_NAME= parameter. The XCF group name acts as the IMS Tools Knowledge Base server name.

***yourRECONID***

The RECON ID that points to DBDLIB, PSBLIB, and RECON data sets that the utility uses to discover IMS databases, programs, and DBRC groups.

**CREATE | DELETE**

The function to be run.

**CREATE**

Build a new inventory or refresh of an existing inventory.

**DELETE**

Delete an existing inventory.

***smphlq***

The SMP/E high level qualifier for the SHKTLOAD load library.

***ims.reslib***

The IMS RESLIB data set name.

2. Submit the job.



# Chapter 14. Import and Export Utility

The Import and Export Utility imports and exports a complete set or a subset of repository members across repositories.

## Topics:

- [“Import and Export Utility overview” on page 121](#)
- [“Importing or exporting a repository” on page 122](#)
- [“Import and Export Utility sample JCL” on page 122](#)
- [“Import and Export Utility DD statements” on page 123](#)
- [“Keyword reference for Import and Export Utility” on page 124](#)
- [“Usage scenarios for the Import and Export Utility” on page 133](#)

## Import and Export Utility overview

The Import and Export Utility imports and exports a complete set or a subset of repository members across repositories.

The export process writes the repository content to the import and export file (IMEXFILE). The export process does not update the repository.

The import process writes or appends the members that are specified in the IMEXFILE file to a single repository. During the import process, you can delete selected repository members and trim the repository member version.

You start the Import and Export Utility by running the HKTIMEX0 program. Input commands are entered by using the JCL PARM= specification, a SYSIN file, or a combination of both. If you specify both methods, the JCL PARM= is processed first followed by the SYSIN file.

A log file is generated that provides details about the calls to the repository and any processing issues. A report file is generated that provides details about the specific import and export processes.

**Important:** If you are importing or exporting only Policy Services members, use the Policy Services ISPF interface rather than the Import and Export Utility. If you are importing or exporting the entire HKT\_INPUT repository, use the Import and Export Utility.

This process is illustrated in the following figure:

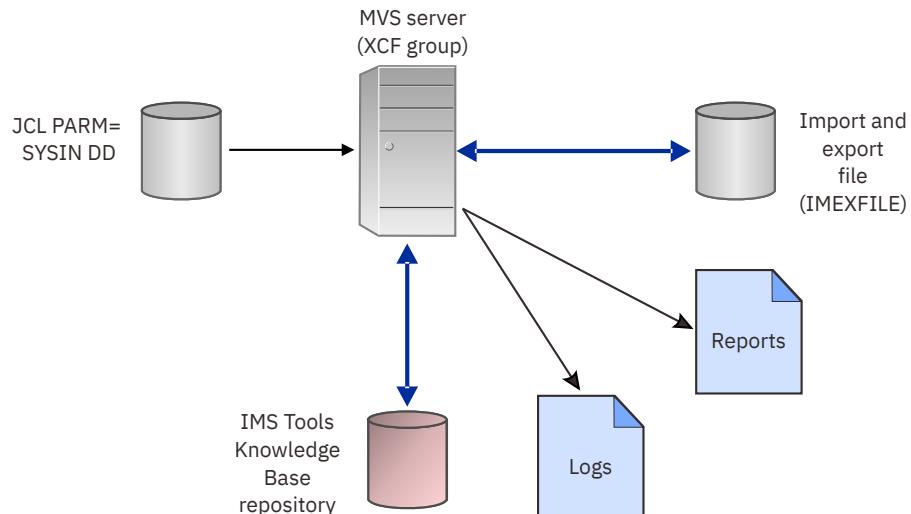


Figure 88. The Import and Export Utility

# Importing or exporting a repository

You can import or export an entire repository or a selected subset of members, based on product and type, member name, and index data.

## Before you begin

- Make sure that the repositories are IMS Tools Base 1.7 compliant.
- Back up your repositories before using the Import and Export Utility. Sample library member HKTJIE01 contains sample JCL to back up a set of repositories. Sample member HKTJIE02 contains JCL to restore a set of repositories.
- Make sure that the IMS Tools Knowledge Base server is running.

## About this task

Sample JCL is provided in members HKTJIE01 through HKTJIE11 to assist you with using the Import and Export Utility.

## Procedure

1. Specify options by using the input commands from the JCL PARM= specification and the SYSIN file.

**Tip:** You can generate a list of all available PROJECTs and FIELDs of the Import and Export Utility by submitting the following JCL:

```
//EXPORT01 EXEC PGM=HKTIMEX0,REGION=0M,  
// PARM='EXPORT GROUP=srvrname REPOS=None'  
//STEPLIB DD DISP=SHR,DSN=itkblq.SHKTLOAD  
//SYSLOG DD SYSOUT=* <=LOGGING  
//SYSPRINT DD SYSOUT=* <=REPORT  
//SYSABEND DD SYSOUT=*  
//IMEXFILE DD DUMMY  
//SYSIN DD *  
      LIST=ONLY  
/*                                     C=(List keyword descriptions ONLY)
```

2. Submit the job.

## Import and Export Utility sample JCL

The IMS Tools Knowledge Base sample library file (SHKTSAMP) contains a set of members with sample JCL that can perform many of the Import and Export Utility tasks.

The following Import and Export Utility members are included in the SHKTSAMP library:

*Table 25. Import and Export Utility sample library members*

Member name	Description
HKTJIE01	This member contains sample JCL to back up a set of repositories to a data set by using the Import and Export Utility.
HKTJIE02	This member contains sample JCL to restore a set of repositories to a data set by using the Import and Export Utility.
HKTJIE03	This member contains sample JCL to export or import an entire repository by using the Import and Export Utility.
HKTJIE04	This member contains sample JCL to export or import RECON data to or from the HKT_INPUT repository by using the Import and Export Utility.

Table 25. Import and Export Utility sample library members (continued)

Member name	Description
HKTJIE05	This member contains sample JCL to export or import discovery data from a RECON ID to or from the INPUT repository by using the Import and Export Utility.
HKTJIE06	This member contains sample JCL to export or import the Autonomics Director monitor list data to or from the IAV_AUTODIR repository by using the Import and Export Utility.
HKTJIE07	This member contains sample JCL to export all of the Autonomics Director data types from the IAV_AUTODIR repository, but import only the monitor list data by using the Import and Export Utility.
HKTJIE08	This member contains sample JCL to export or import product registration data to or from the HKT_REGISTRY repository by using the Import and Export Utility.
HKTJIE09	This member contains sample JCL to export or import sensor data to or from the BSN_SENSOR repository by using the Import and Export Utility.
HKTJIE10	This member contains sample JCL to list the descriptions of all of the available keywords in the Import and Export Utility.
HKTJIE11	This member contains sample JCL to export reports from the HKT_0nnnnnnn repository by using the Import and Export Utility.

## Import and Export Utility DD statements

DD statements are used to identify the source of input and the placement of output information.

The following DD statements are specific to the Import and Export Utility:

### SYSLOG

Contains the log file. The SYSLOG is set to LRECL=80 RECFM=FB. This DD name can be overridden.

**Tip:** Specify this statement as DD DUMMY to suppress the Import and Export Utility output.

### SYSPRINT

Contains the report file. The SYSPRINT is set to LRECL=133 RECFM=FBA. This DD name can be overridden.

### IMEXFILE

Contains the import or export data set content. The IMEXFILE is set to LRECL=256 RECFM=VB. This DD name can be overridden.

### SYSIN

Contains the optional input command file. The SYSIN is set to LRECL=80 RECFM=FB. This DD name can be overridden.

The following example shows a standard invocation of the Import and Export Utility:

```
//SAMPLE    EXEC  PGM=HKTIMEX0,REGION=0M,PARM='input keywords'
//STEPLIB  DD    DISP=SHR,DSN=h1q.SHKTLOAD
//SYSLOG   DD    DUMMY
//SYSPRINT DD    SYSOUT=*=      <= The report file
//SYSABEND DD    SYSOUT=*
//IMEXFILE DD    DISP=SHR,DSN=yourh1q.imex.dataset
//SYSIN    DD    *          <= SYSIN file input commands
               . . . input keywords . . .
/*

```

where:

### ***input keywords***

Input commands are entered by using the JCL PARM= specification, a SYSIN file, or a combination of both.

#### **DSN=*hlq.SHKTLOAD***

The location of your sample data set.

#### **DSN=*yourhlq.imex.dataset***

The location of your IMEXFILE.

## **Keyword reference for Import and Export Utility**

---

You can modify Import and Export Utility keywords to control how the utility is started and how the utility runs.

### **Keyword reference overview**

You can specify commands in both the JCL PARM= input string and the SYSIN input file, unless otherwise noted.

- The command syntax is free form. That is, you do not need to code each keyword on a separate line, and each line can begin in any column from 1 to 72.
- You can use spaces, commas, and semicolons as delimiters.
- Input from the JCL PARM= specification is a single string of varying length.
- Input from the SYSIN file must adhere to this format:
  - Each record can be a maximum of 80 characters with columns 73 through 80 treated as blanks.
  - The default maximum of uncommented records is 1000.
- Commands are entered as a keyword with zero or more values. For example, `Keyword=value` or `Keyword=(value1,value2, ... valuen)`.

The date and time stamps of the create and update members are set to the date and time of the import operation, not the export operation.

Repository aliases are members that have identical repository member data (RMD), but different repository index data (RID). Repository aliases are imported and exported as separate members. However, importing as a separate member does not affect the functional usage of these members. The size of the imported member can be larger than the exported member.

Certain keywords allow wildcard characters:

- An asterisk (\*) matches 0 or more characters.
- A percent sign (%) matches a single character.

### **Default value types**

Two types of defaults exist for some keywords:

**1. Implicit** default; what happens if the keyword is not used.

For example, if the keyword DELETE is not specified, then the resulting behavior is the same as `DELETE=NO`.

**2. Explicit** default; what happens if the keyword is specified without a value.

For example, if the keyword DELETE is specified, but without a value, the resulting behavior is the same as `DELETE=YES`.

### **Required keywords**

The following keywords are required:

**EXPORT=ddname**

This required keyword defines the process as an export function in which one or more members of a repository are written to the import and export file (IMEXFILE).

The use of the EXPORT keyword is mutually exclusive with the IMPORT keyword.

The EXPORT keyword can be specified as EXPORT, EXPRT, or EXP.

**ddname**

This optional parameter specifies the DD name for the IMEXFILE.

The default value is IMEXFILE.

**IMPORT=ddname**

This required keyword defines the process as an import function in which one or more members of a repository are added, updated, or deleted based on the input import and export file (IMEXFILE).

The use of the IMPORT keyword is mutually exclusive with the EXPORT keyword.

The IMPORT keyword can be specified as IMPORT, IMPRT, or IMP.

**ddname**

This optional parameter specifies the DD name for the IMEXFILE.

The default value is IMEXFILE.

**GROUP=group\_name**

This required keyword specifies the XCF group or server name that contains the repository to be imported or exported.

The GROUP keyword can be specified as either GROUP or GRP.

**REPOSITORY=repository\_name**

This required keyword specifies the name of the repository. The REPOSITORY keyword can be specified as either REPOSITORY or REPOS.

You can specify the following values for *repository\_name*:

**HKT\_INPUT**

The Input repository.

**IAV\_AUTODIR**

The Autonomics Director repository.

**BSN\_SENSOR**

The Sensor Data repository.

**HKT\_REGISTRY**

The Registry repository.

**HKT\_Onnnnnnn**

The standard Output repository where *nnnnnnnn* is the name of the output repository.

**Restriction:** You cannot import or export the Catalog repository by using the Import and Export Utility.

## Optional keywords

The following keywords are optional:

**COMMENT=(comment\_statement)**

This optional keyword specifies that a comment is added as the value of the comment keyword.

The *comment\_statement* value must adhere to the syntax rules of a keyword or value pair. The *comment\_statement* value can have a null value.

The COMMENT keyword can be specified as either COMMENT or C.

The COMMENT keyword is an alternative to specifying comments by using an asterisk in column 1 of a SYSIN input file record.

For example:

```
EXPORT GROUP=servername HISTORY=NO MAXDSIZE(16)
C=(PROJECT NAME) PROJECT=DISCOVERY C=(PRINT LIST OF PROJECTs) LIST
FIELD=(NAME=DISC_MTYPE,STRING=DISC) C=(ALL MEMBERS ARE 'DISC')
FIELD=(NAME=DISC_MVERS,STRING=0001) C=(ALL MEMBERS ARE '0001')
FIELD=(NAME=DISC_RECON_STRING,STR=$ADUT3)
FIELD=(NAME=DISC_DATABASE,PATTERN=REC*)
```

### **COMMIT=YES|NO|IGNORE**

This optional keyword specifies whether updates to the repository are committed and whether changes are locked in a single unit of work or handled on a case-by-case basis.

**Important:** Back up your repository before specifying COMMIT=YES and COMMIT=IGNORE.

The COMMIT keyword can be specified as either COMMIT or COMM.

#### **YES**

Changes are committed and the repository is locked in a single unit of work.

If an error occurs during processing, all scheduled updates are backed out.

#### **NO**

Changes are not committed and the repository is locked in a single unit of work.

If the processing succeeds to the end, the return code is set to 4.

#### **IGNORE**

Changes are committed independently on a case-by-case basis without setting a unit of work.

If an error occurs during the processing, only some members are updated.

Both implicit and explicit default value is COMMIT=YES.

**Tip:** You can perform validity checking of the Import and Export Utility process by specifying COMMIT=NO. Validity checking is useful with the SYSPRINT output report or the SYSLOG file.

### **DELETE=YES|NO|COND**

This optional keyword specifies whether to delete members for all versions before importing.

The DELETE keyword can be specified as either DELETE or DEL.

**Important:** Back up your repository before specifying DELETE=YES or DELETE=COND.

#### **YES**

Deletes the member before writing. The member must exist in the repository.

#### **NO**

Retains any existing version of the member. The member that is written becomes the newest version.

#### **COND**

Deletes the member before writing. The member does not need to exist.

The implicit value default is DELETE=NO.

The explicit default value is DELETE=YES.

### **FIELD=(keyword1=value1, keyword2=value2, ... keywordN=valueN)**

This optional keyword specifies the FIELD name, where *field\_name* is a maximum 64-character name.

A named entity that can contain the following keyword values:

#### **AND|OR**

This value specifies the Boolean AND or OR operation.

The OR operation takes precedence over the AND operation.

#### **NAME=field\_name**

This required keyword specifies a field name that is either defined in the current or global project.

The *field\_name* value contains the RID location and the data type to be validated or compared.

The NAME keyword can be specified as either NAME or NAM.

**OPERATOR=operator\_name**

This keyword specifies which comparison test is used between the field entry in the RID and the specified field value.

Valid *operator\_name* values are:

**EQUAL**

Test that operators are equal. The EQUAL keyword can be specified as either EQUAL or EQ.

**NOT\_EQUAL**

Test that operators are not equal. The NOT\_EQUAL keyword can be specified as either NOT\_EQUAL or NE.

**LESS\_THAN\_OR\_EQUAL**

Test that operators are less than or equal to each other. The LESS\_THAN\_OR\_EQUAL keyword can be specified as either LESS\_THAN\_OR\_EQUAL or LTE.

**LESS\_THAN**

Test that operators are less than each other. The LESS\_THAN keyword can be specified as either LESS\_THAN or LT.

**GREATER\_THAN\_OR\_EQUAL**

Test that operators are greater than or equal to each other. The GREATER\_THAN\_OR\_EQUAL keyword can be specified as either GREATER\_THAN\_OR\_EQUAL or GTE.

**GREATER\_THAN**

Test that operators are greater than each other. The GREATER\_THAN keyword can be specified as either GREATER\_THAN or GT.

**PACKED\_UNSIGNED=numeric\_value**

This keyword specifies the entire field must contain an unsigned packed number.

Each byte must contain two packed digits. The maximum length is 256 bytes.

The PACKED\_UNSIGNED keyword can be specified as either PACKED\_UNSIGNED or PKU.

**PACKED\_SIGNED=numeric\_value**

This keyword specifies the entire field must contain a signed packed number.

Each byte except the last must contain two packed digits. The last byte must contain a packed digit and a sign field. The maximum length is 16 bytes.

The PACKED\_SIGNED keyword can be specified as either PACKED\_SIGNED or PKS.

**PADZERO**

This keyword specifies that the comparison of RECON data set names are padded with any combination of hex zeros or blanks.

This keyword does not apply to any other field type.

The PADZERO keyword can be specified as PADZERO, PZERO, or PZ.

**RECON\_DSNAME=recon\_dataset\_name**

This keyword specifies the name of a RECON data set name that is compared to any RECON type, including a RECON data set name, an external 8-byte character RECON identifier, or an internal 4-byte binary RECON identifier.

The *recon\_dataset\_name* value must be defined as an entry in the RECON registry.

The RECON\_DSNAME keyword can be specified as RECON\_DSNAME, RECON\_DSN, or RDS.

**RECON\_INTERNAL=recon\_internal\_value**

This keyword specifies a 4-byte binary RECON value that is compared to any RECON type, including a RECON data set name, an external 8-byte character RECON identifier, or an internal 4-byte binary RECON identifier.

The *recon\_internal\_value* value must be defined as an entry in the RECON registry.

The RECON\_INTERNAL keyword can be specified as RECON\_INTERNAL, RECON\_INT, or RII.

**RECON\_EXTERNAL=recon\_external\_value**

This keyword specifies an 8-byte character RECON string that is compared to any RECON type, including a RECON data set name, an external 8-byte character RECON identifier, or an internal 4-byte binary RECON identifier.

The *recon\_external\_value* value must be defined as an entry in the RECON registry.

The RECON\_EXTERNAL keyword can be specified as RECON\_EXTERNAL, RECON\_EXT, or RXI.

**STRING**

This keyword specifies a value for a string type value. A string is defined as a series of valid print type characters, including:

- Alphabetic (A to Z)
- Numeric (0 - 9)
- ! @ # \$ % & \* \_ - + = { } | < > . ? /

The STRING keyword can be specified as either STRING or STR.

If necessary, the string is considered to be padded with blanks.

If you want the string to contain any other characters, then consider using the MIXED or HEXADECIMAL field keywords.

**HEXADECIMAL=hexadecimal\_string**

This keyword specifies a value for string type value as a series of hexadecimal digits. The number of hexadecimal digits must be an even number.

Each hexadecimal digit occupies a half-byte. If the number of bytes filled is less than the field length, the remaining bytes are set to zero (X'00').

The HEXADECIMAL keyword can be specified as either HEXADECIMAL or HEX.

**LENGTH=length**

This keyword specifies an overriding length value for string type fields.

The length is expressed as a numeric value. The *length* value must be a positive integer whose value is within the current field definition.

The field definition value is calculated by adding the values of the POSITION and LENGTH keywords.

The LENGTH keyword can be specified as either LENGTH or LEN.

**MIXED=mixed\_string**

This keyword specifies a value for a mixed string.

A mixed string provides a way to express values as hex, but without using the HEX keyword. A mixed string can contain both characters and hexadecimal representations for a comparison value.

The MIXED keyword is useful for characters that can interfere with parsing or that are white space (for example, C++ terminology).

The MIXED keyword can be specified as MIXED, MIXD, or MXD.

A *mixed\_string* value is composed of a forward slash (/), an escape type indicator, and zero, one, or two characters with the escape value setting. Available characters are:

- Alphabetic (A to Z)
- Numeric (0 - 9)
- ! @ # \$ % & \* \_ - + = { } | < > . ? /

For example, consider a field called PERSON that is 36 characters long, left-aligned, and blank-filled:

- To have the name of a person with the first and family name separated by a blank, include the following FIELD keyword:

```
FIELD=(NAME=PERSON,MIXED=JOHN/BDOE/B)
```

The /B is substituted with a blank space, so it would be JOHN DOE. The first /B is the name separator, and the final /B acts as both the character at the end of the name and the fill character to make the entry padded with enough blanks to make it 40 characters long.

- To have the name enclosed in quotation marks, include the following FIELD keyword:

```
FIELD=(NAME=PERSON,MIXED=/QJOHN/BDOE/Q/B)
```

- To use tab characters, which are X'05', to surround the name, include the following FIELD keyword:

```
FIELD=(NAME=PERSON,MIXED=/X05JOHN/BDOE/X05/B)
```

#### **POSITION=position**

This keyword specifies an overriding position value for string type fields.

The position is expressed as a numeric value for the zero origin start within the current field.

If the POSITION value is greater than zero, you must specify the LENGTH keyword. The *position* value must be a positive integer whose value is within the current field definition. The field definition value is calculated by adding the values of the POSITION and LENGTH keywords.

The POSITION keyword can be specified as either POSITION or POS.

#### **STRINGZ=string**

This keyword specifies a value for a string type value. A string is defined as a series of valid print type characters, including:

- Alphabetic (A to Z)
- Numeric (0 - 9)
- ! @ # \$ % & \* \_ - + = { } | < > . ? /

The STRINGZ keyword can be specified as either STRINGZ or STRZ.

If necessary, the string is considered to be padded with X'00'. If you want the string to contain any other characters, consider using the MIXED or HEXADECIMAL field keywords.

#### **PATTERN=pattern\_string**

This keyword specifies the string type value as pattern string.

A pattern string is similar to the STRING keyword, except that it allows for the use of wildcard characters.

The PATTERN keyword can be specified as either PATTERN or PAT.

#### **SIGNED\_BINARY=numeric\_value**

This keyword specifies a value for comparison with binary type fields.

This keyword can be used for either a signed or unsigned binary field type.

The SIGNED\_BINARY keyword can be specified as SIGNED\_BINARY, SBIN, or SBI.

#### **SIGNED\_PACKED=numeric\_value**

This keyword specifies a value for comparison with signed packed type fields.

This keyword can be used only for a signed packed field type.

The SIGNED\_PACKED keyword can be specified as SIGNED\_PACKED, SPACK, or SPN.

#### **UNSIGNED\_BINARY=numeric\_value**

This keyword specifies a value for comparison with binary type fields. The UNSIGNED\_BINARY keyword can be specified as UNSIGNED\_BINARY, UBIN, or UBI.

#### **UNSIGNED\_PACKED=unsigned\_packed\_string**

This keyword specifies a value for comparison with unsigned packed type fields.

The *unsigned\_packed\_string* value must contain only decimal digits.

The UNSIGNED\_PACKED keyword can be specified as UNSIGNED\_PACKED, UPACK, or UPN.

#### **HISTORY=YES|NO**

This optional keyword specifies whether to include all versions or only the latest version of the specified member.

The HISTORY keyword can be specified as either HISTORY or HIST.

Imported versions are appended to existing members and are considered new members. Imported versions are applied in the same sequence as exported versions.

##### **YES**

Include all versions.

##### **NO**

Only the latest version of the selected members is included.

Both implicit and explicit default value is HISTORY=YES.

**Tip:** You can trim multiple member versions to the latest member version by specifying HISTORY=NO.

#### **ISEMPTY=YES|NO**

This optional keyword specifies whether to check that a repository is empty, before an import operation.

This option is ignored for export operations.

The ISEMPTY keyword can be specified as either ISEMPTY or ISEMP.

##### **YES**

Verify that the repository is empty before the import operation.

##### **NO**

Do not verify whether the repository is empty before the import operation.

For import operations, the implicit default value is ISEMPTY=NO.

For import operations, the explicit default value is ISEMPTY=YES.

#### **LIST=YES|NO|ONLY**

This optional keyword specifies whether to print the available PROJECTs and FIELDs on the output report file.

The LIST keyword can be specified as either LIST or LST.

##### **YES|NO**

Print the available PROJECTs and FIELDs and continue processing.

##### **NO**

Do not print the available PROJECTs and FIELDs.

##### **ONLY**

Print the available PROJECTs and FIELDs and terminate processing. If processing is successful, the return code is 4.

**Requirement:** If you specify LIST=ONLY, you must also specify the REPOSITORY=NONE.

The implicit default value is LIST=NO.

The explicit default value is LIST=YES.

#### **MAXDATASIZE=*data\_size\_numeric\_value***

This optional keyword specifies the maximum character size of the Import and Export Utility member RMD (data component) that is printed on the output report file.

The MAXDATASIZE keyword can be specified as either MAXDATASIZE or MAXDSIZE.

Choose an appropriate *data\_size\_numeric\_value* value so that the output report is not too large.

The default value is 0, which means that RMD (data component) is not printed.

**Important:** A MEMBER\_PRINT=NO specification overrides any MAXDATASIZE setting.

**MEMBER\_PRINT=YES|NO|COND**

This optional keyword specifies whether the Import and Export Utility member index component (RID) and data component (RMD) are included in the output report.

The RID contains the member identification, system, and optional high-impact data for a member.

The MEMBER\_PRINT keyword can be specified as MEMBER\_PRINT, MEMPRINT, or MEMPRT.

The values for the MEMBER\_PRINT keyword are:

**YES**

Print the RID and RMD data. The RMD is printed only if MAXDATASIZE is greater than 0.

**NO**

Do not print the RID and RMD data.

**Important:** A MEMBER\_PRINT=NO specification overrides any MAXDATASIZE setting.

**COND**

Print the RID and RMD only if DELETE=YES is specified.

Both implicit and explicit default value is MEMBER\_PRINT=YES.

**NOEXIST=YES|NO**

This optional keyword specifies whether to validate that the target repository does not already contain the members to be imported.

The NOEXIST keyword can be specified as either NOEXIST or NOEX.

**Restriction:** The NOEXIST keyword is valid only for import operations in which DELETE=NO is also specified; otherwise it is ignored.

The values for the NOEXIST keyword are:

**YES**

Validate whether the target repository already contains members to be imported.

**NO**

Do not validate whether the target repository already contains members to be imported.

If the member exists, the imported member becomes a newer member version.

Both implicit and explicit default value is NOEXIST=NO.

**PRODUCT=member\_product\_identification**

This optional keyword specifies the product that is being processed, identified by a product identifier.

The PRODUCT keyword can be specified as PRODUCT, PROD, or PRD.

You can use a wildcard character.

The default value is all products.

**PROJECT=project\_name**

This optional keyword specifies the name of the PROJECT.

A PROJECT is a set of predefined input values that can include REPOSITORY, PRODUCT, TYPE, and FIELD.

The keywords that are contained in the PROJECT take effect as if they were individually specified. Their values are immediately available for use, overriding the global PROJECT fields.

The PROJECT keyword can be specified as either PROJECT or PROJ.

Valid values for *project\_name* are:

**AUTONOMICS\_DIRECTOR**

Defines the Autonomics Director repository members for all types. The types are MON for monitored database member, GRP for group, PER for period, and CAC for cached items. The specific types can be overridden by the TYPE keyword specification.

**AUTONOMICS\_DIRECTOR\_CAC**

Defines the Autonomics Director repository members for the CAC type.

**AUTONOMICS\_DIRECTOR\_GRP**

Defines the Autonomics Director repository members for the GRP type.

**AUTONOMICS\_DIRECTOR\_MON**

Defines the Autonomics Director repository members for the MON type.

**AUTONOMICS\_DIRECTOR\_PER**

Defines the Autonomics Director repository members for the PER type.

**DISCOVERY**

Defines stored discovery data for databases and groups. This *project\_name* is the generic version for all types.

**DISCOVERY\_DATABASE**

Defines stored discovery data for the DATABASE type.

**DISCOVERY\_GROUP**

Defines stored discovery data for GROUP type.

**OUTPUT\_REPORT**

Defines the output report repository.

The OUTPUT\_REPORT project is designed to access the first output repository, for example HKT\_00000000.

To override this output repository value, add a REPOSITORY statement.

**PRODUCT\_REGISTRY**

Defines the product registry definitions.

**RECON\_REGISTRY**

Defines the RECON registry.

**REPORT\_REGISTRY**

Defines the product report registry.

**SENSOR\_DATA**

Defines the sensor data repository members.

**Tip:** Specify LIST=YES to print the available PROJECTs and FIELDS.

**SCAN=YES|NO**

This optional keyword specifies whether to scan the keywords for correct syntax before running the import or export process.

The SCAN keyword can be specified as either SCAN or SCN.

**YES**

Verify the syntax and keywords of the command, but do not run the import or export process.

A return code of 4 indicates the syntax and keywords of the command are valid.

**Tip:** Specifying SCAN=YES is similar to specifying TYPRUN=SCAN on JCL.

**NO**

Run the import or export process without verifying the syntax and keywords of the command.

The implicit default value is SCAN=NO.

The explicit default value is SCAN=YES.

**TYPE=member\_type\_identification**

This optional keyword specifies the type identifiers for all Import and Export Utility members.

The TYPE keyword can be specified as either TYPE or TYP.

**Tip:** The TYPE keyword is different from the FIELD=(NAME=TYPE, ... ) specification.

You can use a wildcard character.

The default value is all types.

## Usage scenarios for the Import and Export Utility

The following usage scenarios address some of the more common ways to import and export data from repositories by using the Import and Export Utility.

### Topics:

- “Scenario: Exporting discovery data and RECON data from Autonomics Director” on page 133
- “Scenario: Exporting sensor data from the BSN\_SENSOR repository” on page 134
- “Scenario: Exporting all Autonomics Director data from the Autonomics Director repository” on page 135
- “Scenario: Exporting RECON data from the HKT\_INPUT repository” on page 136
- “Scenario: Exporting product registration data from the HKT\_REGISTRY repository” on page 137
- “Scenario: Trimming a version by using the Import and Export Utility” on page 138

## Scenario: Exporting discovery data and RECON data from Autonomics Director

This scenario demonstrates how to export data discovery members from the Autonomics Director repository by using the Import and Export Utility.

### About this task

Exporting data discovery members from Autonomics Director is useful in the following situations:

- To import the data into another repository running on a different server
- To take a checkpoint of the repository
- To recover the repository to a specific point in time
- To trim the number of versions of members by using an import with delete capabilities

**Tip:** Sample JCL is provided in member HKTJIE05 to export or import discovery data from a RECON ID to or from the HKT\_INPUT repository by using the Import and Export Utility.

### Procedure

1. Specify options by using the input commands from the JCL PARM= specification and the SYSIN file.

- a) Customize the SYSPRINT DD statement for the report file, which shows the results of the processing.

For example:

```
//SYSPRINT DD DSN=EXDDSCN.IMEX.PRINT,DISP=SHR,  
// UNIT=3390,VOL=SER=IMSTL7
```

- b) Customize the IMEXFILE DD statement. This statement is the target file for an export operation. It contains the selected data from the repository based on control statements.

For example:

```
//IMEXFILE DD DSN=EXDDSCN.IMEX.EXPORT.DSC.DATA,DISP=(,CATLG),  
// UNIT=SYSDA,SPACE=(CYL,(10)),  
// DCB=(LRECL=256,RECFM=VB,DSORG=PS)
```

- c) Customize the SYSIN DD statement, which contains the control statements.

For example:

```
EXPORT GROUP=FPQSRVT3 REPOS=IAV_AUTODIR  
HISTORY=NO MAXDSIZE(100)
```

PROJECT=DISCOVERY FIELD=(NAME=DISC_MTYPE,STRING=DISC)	C=(DISCOVERY) C=('DISC' members)
--	-------------------------------------

where:

#### **EXPORT**

Indicates that the operation is to export data from the repository into the Import and Export Utility file (IMEXFILE).

#### **GROUP=FPQSRVT3**

Indicates that FPQSRVT3 is the group or server that is associated with the repository shown in the data export operation.

#### **REPOS=IAV\_AUTODIR**

Indicates IAV\_AUTODIR as the name of the repository that contains the data for export.

**Remember:** The IAV\_AUTODIR repository is contained on the FPQSRVT3 group or server.

#### **MAXDSIZE(100)**

Indicates that members that are printed to the SYSPRINT output are limited to 100 GB of RMD data.

#### **FIELD=(NAME=DISC\_MTYPE,STRING=DISC)**

Indicates that you want to include only discovery members with names that match the string DISC.

#### **FIELD=(NAME=DISC\_RECON\_STRING,STR=\$ADUT3)**

Indicates that you want to include only discovery members associate with RECON ID \$ADUT3.

2. Submit the job and ensure that it completes with a return code=0.

#### **Example**

In the following example, the JCL to export discovery members from Autonomics Director is shown:

```
//*****  
//*      EXPORT AUTONOMICS DIRECTOR DISCOVERY MEMBERS      *  
//*****  
//EXPDISC EXEC  PGM=HKTIMEX0,REGION=0M,  
//STEPLIB  DD    DISP=SHR,DSN=DBGTOOL.IMSADM.SIAVLOAD  
//STEPLIB  DD    DISP=SHR,DSN=EXDDSCN.HKT2.LOAD  
//          DD    DISP=SHR,DSN=EXDDSCN.IAV3.LOAD  
//*****  DD    DISP=SHR,DSN=IMSBLD.HAHN210.ABSNLOAD  
//*****  DD    DISP=SHR,DSN=IMSBLD.HAHN210.SBSNLOAD  
//          DD    DISP=SHR,DSN=IMSTOOL.HKT120CP.SHKTLOAD  
//          DD    DISP=SHR,DSN=SYS1.CSSLIB  
//          DD    DISP=SHR,DSN=IMSTOOL.FPQ120M.D100819.SFPQLMD0  
//          DD    DISP=SHR,DSN=IMSTOOL.FPQ12007.SFPQLMD0  
//          DD    DISP=SHR,DSN=IMSTOOL.FPQ1203E.SBPELMD0  
//SYSPRINT DD    DSN=EXDDSCN.IMEX.PRINT,DISP=SHR,  
// UNIT=3390, VOL=SER=IMSTL7  
//IMEXFILE DD    DSN=EXDDSCN.IMEX.EXPORT.DSC.DATA,DISP=(,CATLG),  
//    UNIT=SYSDA, SPACE=(CYL,(10)),  
//    DCB=(LRECL=256,RECFM=VB,DSORG=PS)  
//SYSABEND DD    SYSOUT=*  
//SYSIN   DD    *  
          EXPORT GROUP=FPQSRVT3 REPOS=IAV_AUTODIR  
          HISTORY=NO MAXDSIZE(100)  
          PROJECT=DISCOVERY          C=(DISCOVERY)  
          FIELD=(NAME=DISC_MTYPE,STRING=DISC)  C=('DISC' members)  
          FIELD=(NAME=DISC_RECON_STRING,STR=$ADUT3)  C=(your RECONID)  
/*
```

## **Scenario: Exporting sensor data from the BSN\_SENSOR repository**

This scenario demonstrates how to export sensor data from the BSN\_SENSOR repository by using the Import and Export Utility.

#### **About this task**

Sample JCL provided in member HKTJIE09 to export or import sensor data to or from the BSN\_SENSOR repository by using the Import and Export Utility.

## Procedure

1. Specify options by using the input commands from the JCL PARM= specification and the SYSIN file.

- Customize the SYSPRINT DD statement for the report file, which shows the results of the processing. For example:

```
//SYSPRINT DD DSN=EXDDSCN.IMEX.PRINT,DISP=(,CATLG),  
// UNIT=3390,VOL=SER=IMSTL7
```

- Customize the IMEXFILE DD statement. This statement is the target file for an export operation. It contains the selected data from the repository based on control statements. For example:

```
//IMEXFILE DD DSN=EXDDSCN.IMEX.DATA,DISP=(,CATLG),  
// UNIT=SYSDA,SPACE=(CYL,(10)),  
// DCB=(LRECL=256,RECFM=VB,DSORG=PS)
```

- Customize the SYSABEND DD statement, which contains the abend information. For example:

```
SYSABEND DD SYSOUT=*
```

- Customize the SYSIN DD statement, which contains the control statements. For example:

```
EXPORT GROUP=FPQSRVT3 REPOS=BSN_SENSOR  
HISTORY=NO MAXDSIZE(1G)  
PROJECT=SENSOR_DATA  
FIELD=(NAME=DATABASE STRING=DISC) C=(SENSOR data)
```

where:

### **EXPORT**

Indicates that the operation is to export data from the repository into the Import and Export Utility file (IMEXFILE).

### **GROUP=FPQSRVT3**

Indicates that FPQSRVT3 is the group or server that is associated with the repository shown in the data export operation.

### **MAXDSIZE(1G)**

Indicates that members that are printed to the SYSPRINT output are limited to 1 GB of RMD data.

### **REPOS=BSN\_SENSOR**

Indicates BSN\_SENSOR as the name of the repository that contains the data for export.

### **FIELD=(NAME=DATABASE STRING=DISC)**

Indicates that you want to include only databases with names whose bytes match the string DISC.

2. Submit the job and ensure that it completes with a return code=0.

## Scenario: Exporting all Autonomics Director data from the Autonomics Director repository

This scenario demonstrates how to export all Autonomics Director data from the Autonomics Director repository by using the Import and Export Utility.

## About this task

Sample JCL is provided in member HKTJIE07 to import or export all of the Autonomics Director data types from the IAV\_AUTODIR repository by using the Import and Export Utility.

## Procedure

1. Specify options by using the input commands from the JCL PARM= specification and the SYSIN file.

- a) Customize the SYSPRINT DD statement for the report file, which shows the results of the processing.  
 For example:

```
//SYSPRINT DD DSN=EXDDSCN.IMEX.PRINT,DISP=SHR,
// UNIT=3390,VOL=SER=IMSTL7
```

- b) Customize the IMEXFILE DD statement. This statement is the target file for an export operation. It contains the selected data from the repository based on control statements.  
 For example:

```
//IMEXFILE DD DSN=EXDDSCN.IMEX.AUTODIR.DATA,DISP=(,CATLG),
// UNIT=SYSDA,SPACE=(CYL,(10,10)), <=USER'S CHOICE
// DCB=(LRECL=256,RECFM=VB,DSORG=PS)
```

- c) Customize the SYSIN DD statement, which contains the control statements.

For example:

```
EXPORT GROUP=FPQSRVT3 REPOS=IAV_AUTODIR
  HISTORY=NO MAXDSIZE(100)
  PROJECT=AUTODIR          C=(Autonomics Director all types)
    FIELD=(NAME=TYPE,STRING=MON)  C=(Monitor List)
    FIELD=(OR NAME=TYPE,STRING=GRP) C=(Group definition)
    FIELD=(OR NAME=TYPE,STRING=PER) C=(Period Data)
    FIELD=(OR NAME=TYPE,STRING=CAC) C=(Cached Data)
```

where:

**EXPORT**

Indicates that the operation is to export data from the repository into the Import and Export Utility file (IMEXFILE).

**GROUP=FPQSRVT3**

Indicates that FPQSRVT3 is the group or server that is associated with the repository shown in the data export operation.

**REPOS=IAV\_AUTODIR**

Indicates IAV\_AUTODIR as the name of the repository that contains the data for export.

**Remember:** The IAV\_AUTODIR repository is contained on the FPQSRVT3 group or server.

**MAXDSIZE(100)**

Indicates that members that are printed to the SYSPRINT output are limited to 100 GB of RMD data.

**PROJECT=AUTODIR**

Indicates that the PROJECT selected is AUTODIR, a PROJECT that selects all Autonomics Director data.

2. Submit the job and ensure that it completes with a return code=0.

## Scenario: Exporting RECON data from the HKT\_INPUT repository

This scenario demonstrates how to export RECON data from the HKT\_INPUT repository by using the Import and Export Utility.

### About this task

Sample JCL provided in member HKTJIE04 to export or import RECON data to or from the HKT\_INPUT repository by using the Import and Export Utility.

### Procedure

Specify options by using the input commands from the JCL PARM= specification and the SYSIN file.

1. Customize the SYSPRINT DD statement for the report file, which shows the results of the processing.  
 For example:

```
//SYSPRINT DD      DSN=EXDDSCN.IMEX.PRINT,DISP=SHR,  
// UNIT=3390,VOL=SER=IMSTL7
```

2. Customize the IMEXFILE DD statement. This statement is the target file for an export. It contains the selected data from the repository based on control statements.

For example:

```
//IMEXFILE DD      DSN=EXDDSCN.IMEX.EXPORT.RCNREG.DATA,  
//      DISP=(,CATLG),  
//      UNIT=SYSDA,SPACE=(CYL,(10)),  
//      DCB=(LRECL=256,RECFM=VB,DSORG=PS)
```

3. Customize the SYSIN DD statement, which contains the control statements.

For example:

```
EXPORT GROUP=FPQSRVT3 REPOS=HKT_INPUT  
HISTORY=NO MAXDSIZE(100)  
PROJECT=RCNREG
```

where:

**EXPORT**

Indicates that the operation is to export data from the repository into the Import and Export Utility file (IMEXFILE).

**GROUP=FPQSRVT3**

Indicates that FPQSRVT3 is the group or server that is associated with the repository shown in the data export operation.

**REPOS=HKT\_INPUT**

Indicates HKT\_INPUT as the name of the repository that contains the data for export.

**Remember:** The HKT\_INPUT repository is contained on the FPQSRVT3 group or server.

**MAXDSIZE(100)**

Indicates that members that are printed to the SYSPRINT output are limited to 100 GB of RMD data.

**PROJECT=RCNREG**

Indicates that the PROJECT selected is RCNREG, a PROJECT that selects RECON data.

## Scenario: Exporting product registration data from the HKT\_REGISTRY repository

This scenario demonstrates how to export product registration data from the HKT\_REGISTRY repository by using the Import and Export Utility.

### About this task

Sample JCL provided in member HKTJIE08 to export or import product registration data to or from the HKT\_REGISTRY repository by using the Import and Export Utility.

### Procedure

1. Specify options by using the input commands from the JCL PARM= specification and the SYSIN file.

- a) Customize the SYSPRINT DD statement for the report file, which shows the results of the processing. For example:

```
//SYSPRINT DD      DSN=EXDDSCN.IMEX.PRINT,DISP=(,CATLG),  
// UNIT=3390,VOL=SER=IMSTL7
```

- b) Customize the IMEXFILE DD statement. This statement is the target file for an export operation. It contains the selected data from the repository based on control statements. For example:

```
//IMEXFILE DD DSN=EXDDSCN.IMEX.EXPORT.PRODREG.DATA,
// DISP=(,CATLG),
// UNIT=SYSDA,SPACE=(CYL,(10)),
// DCB=(LRECL=256,RECFM=VB,DSORG=PS)
```

- c) Customize the SYSABEND DD statement, which contains the abend information. For example:

```
SYSABEND DD SYSOUT=*
```

- d) Customize the SYSIN DD statement, which contains the control statements. For example:

```
EXPORT GROUP=FPQSRVT3 REPOS=HKT_REGISTRY
HISTORY=NO MAXDSIZE(1G)
PROJECT=PRODREG
```

where:

**EXPORT**

Indicates that the operation is to export data from the repository into the Import and Export Utility file (IMEXFILE).

**GROUP=FPQSRVT3**

Indicates that FPQSRVT3 is the group or server that is associated with the repository shown in the data export operation.

**MAXDSIZE(1G)**

Indicates that members printed to the SYSPRINT output are limited to 1 GB of RMD data.

**REPOS=PRODREG**

Indicates PRODREG as the name of the repository that contains the data for export.

2. Submit the job and ensure that it completes with a return code=0.

## Scenario: Trimming a version by using the Import and Export Utility

This scenario demonstrates how to trim a version by using the Import and Export Utility.

### Procedure

1. Customize the properties for the report by modifying your copy of member HKTIMEX0.
2. Start an IMPORT operation by specifying HISTORY=NO and DELETE=YES.

For example:

```
//*****
//** Export with HISTORY=NO
//*****
//EXPORT EXEC PGM=HKTIMEX0,REGION=0M,
// PARM='EXPORT GROUP=FPQSRVB1 HISTORY(No) REPOSITORY(HKT_00000000)'
//STEPLIB DD DISP=SHR,DSN=IMSTESTL.TNUCO
//          DD DISP=SHR,DSN=IMSBLD.HAHN130.SHKTLOAD
//SYSPRINT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//IMEXFILE DD DSN=&&TRIM,
// DISP=(NEW,CATLG),
// UNIT=SYSDA,SPACE=(CYL,(2,1)),
// DCB=(DSORG=PS,LRECL=256,RECFM=VB)
/*
//*****
//** Import with DELETE=YES
//*****
//IMPORT EXEC PGM=HKTIMEX0,REGION=0M
//STEPLIB DD DISP=SHR,DSN=IMSTESTL.TNUCO
//          DD DISP=SHR,DSN=IMSBLD.HAHN130.SHKTLOAD
//SYSPRINT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//IMEXFILE DD DISP=(OLD,DELETE),DSN=&&TRIM
//SYSIN DD *
  IMPORT GROUP=FPQSRVB1,
  PROJECT=OUTPUT_REPORT,
  FIELD=(NAME=DBD_NAME,OPER=EQ,STRING=CUST02),
  FIELD=(OR NAME=IMS,OPER=EQ,STRING=IMB1),
```

```
DELETE=YES
/*
```

3. Submit the job.
4. Verify on the IMS Tools Knowledge Base panels that only the current version is listed.

### **What to do next**

Continue to import reports, to verify that the output repository is not broken after trimming.



---

# Chapter 15. Data Publisher Utility

The Data Publisher Utility exports sensor data from the Sensor Data repository in CSV format and generates Db2 DDL statements and Db2 LOAD control statements, which you can use to load the CSV data into Db2 tables.

**Topics:**

- [“Data Publisher Utility overview” on page 141](#)
- [“Data Publisher Utility data streams” on page 142](#)
- [“Running the Data Publisher Utility” on page 148](#)
- [“EXEC and DD statements for the Data Publisher Utility” on page 149](#)
- [“Control statements for the Data Publisher Utility” on page 152](#)
- [“Output from the Data Publisher Utility” on page 160](#)
- [“JCL examples for the Data Publisher Utility” on page 169](#)

## Data Publisher Utility overview

---

The Data Publisher Utility exports sensor data from the Sensor Data repository in CSV format and generates Db2 DDL statements and Db2 LOAD control statements, which you can use to load the CSV data into Db2 tables.

When the utility exports sensor data, it categorizes the data into the following three data streams:

**IMSDBSTAT data stream**

Contains sensor data and data element values for non-partitioned full-function databases and HALDB partitions.

**IMSDSSTAT data stream**

Contains sensor data and data element values for database data set groups.

**DEDBSTAT data stream**

Contains sensor data and data element values for DEDB areas.

For each data stream, the utility generates a Db2 DDL statement (CREATE TABLE DDL statement) to create a Db2 table, and a Db2 LOAD control statement (input control statement for the Db2 LOAD utility) to load the CSV data into the table.

```
//HKTSYIN DD *
  OUTPUT_TYPE(DB2DDL)
  DB2TABLE_NAME(IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))
                IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))
                DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3)))
```

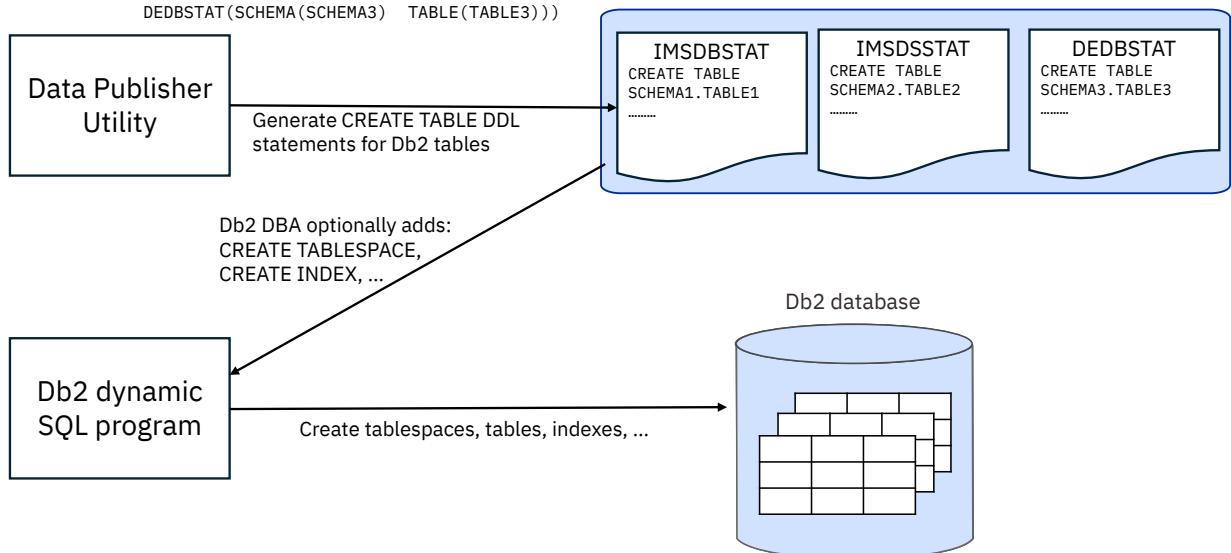


Figure 89. Data Publisher Utility: How `CREATE TABLE` DDL statements are generated and used

```
//HKTSYIN DD *
  OUTPUT_TYPE(CSV DB2LOAD)
  ITKBSRVR(FPQSRV01)
  DB2TABLE_NAME(IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))
                IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))
                DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3)))
```

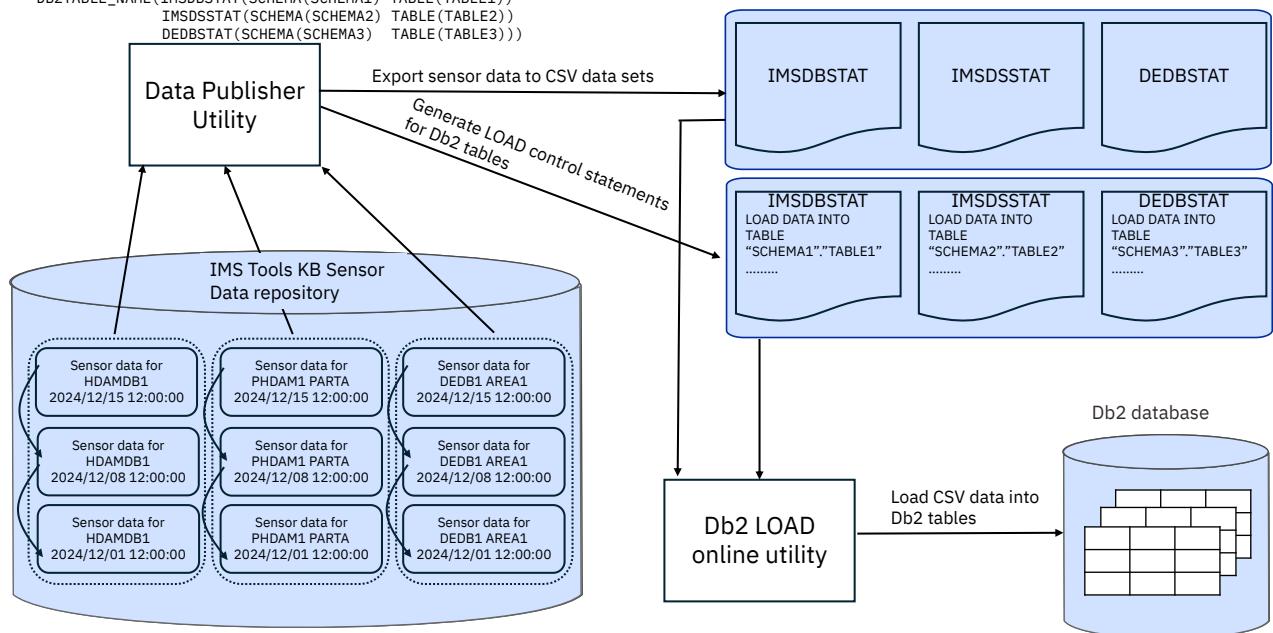


Figure 90. Data Publisher Utility: How CSV data and `LOAD` control statements are generated and used

## Data Publisher Utility data streams

The following tables show the mapping of data element names to CSV column names.

CSV column names are determined based on data element names. Items with the "Data element name" column marked as None are not sensor data; the utility assigns specific labels to the "CSV column name" columns to identify the data.

## Column names and attributes for IMSDBSTAT data stream

Table 26. Column names and attributes for IMSDBSTAT data stream

Data element name	CSV column name	Db2 column attribute
None	RECORD_TIMESTAMP	TIMESTAMP(3) WITH TIME ZONE NOT NULL
None	SYSPLEX	CHAR(8) NOT NULL
None	ITKBSRVR	CHAR(8) NOT NULL
None	RECON_ID	CHAR(8) NOT NULL
None	DBD	CHAR(8) NOT NULL
None	PARTITION	CHAR(7) NOT NULL WITH DEFAULT
DB_DATABASE_TYPE	DATABASE_TYPE	CHAR(20) NOT NULL
DB_ACCESS_METHOD	ACCESS_METHOD	CHAR(4) NOT NULL WITH DEFAULT
DB_FLAG_SENSOR_HOME	FLAG_SENSOR_HOME	CHAR(1)
DB_FLAG_SENSOR_DBINFO	FLAG_SENSOR_DBINFO	CHAR(1)
DB_FLAG_SEGMENT_STAT	FLAG_SEGMENT_STAT	CHAR(1)
DBX_FLAG_SEGMENT_STAT		
DB_NUM_ROOT	NUM_ROOT	BIGINT
DB_NUM_SYNONYM	NUM_SYNONYM	BIGINT
DB_PCT_NUM_SYNONYM	PCT_NUM_SYNONYM	SMALLINT
DB_NUM_ROOT_NOHOME	NUM_ROOT_NOHOME	BIGINT
DB_PCT_NUM_ROOT_NOHOME	PCT_NUM_ROOT_NOHOME	SMALLINT
DB_NUM_ROOT_OVFL	NUM_ROOT_OVFL	INTEGER
DB_PCT_NUM_ROOT_OVFL	PCT_NUM_ROOT_OVFL	SMALLINT
DB_AVG_LEN_SYNONYM_CHAIN	AVG_LEN_SYNONYM_CHAIN	DECIMAL(12,2)
DB_BYTES_SEG_RAA	BYTES_SEG_RAA	BIGINT
DB_PCT_BYTES_OVFL	PCT_BYTES_OVFL	SMALLINT
DB_NUM_RAP	NUM_RAP	BIGINT
DB_NUM_UNUSED_RAP	NUM_UNUSED_RAP	BIGINT
DB_PCT_NUM_UNUSED_RAP	PCT_NUM_UNUSED_RAP	SMALLINT
DB_AVG_DBREC_LENGTH	AVG_DBREC_LENGTH	DECIMAL(16,2)
DB_ESTIMATED_DBREC_IO	ESTIMATED_DBREC_IO	DECIMAL(11,2)
DB_ESTIMATED_ROOT_IO	ESTIMATED_ROOT_IO	DECIMAL(11,2)
DBX_NUM_IPS	NUM_IPS	BIGINT
DBX_NUM_IPS_OVFL	NUM_IPS_OVFL	BIGINT
DBX_PCT_IPS_OVFL	PCT_IPS_OVFL	SMALLINT

Table 26. Column names and attributes for IMSDBSTAT data stream (continued)

Data element name	CSV column name	Db2 column attribute
None	MISSING_DATA_REASON	CHAR(8)

### Column names and attributes for IMSDSSTAT data stream

Table 27. Column names and attributes for IMSDSSTAT data stream

Data element name	CSV column name	Db2 column attribute
None	RECORD_TIMESTAMP	TIMESTAMP(3) WITH TIME ZONE NOT NULL
None	SYSPLEX	CHAR(8) NOT NULL
None	ITKBSRVR	CHAR(8) NOT NULL
None	RECON_ID	CHAR(8) NOT NULL
None	DBD	CHAR(8) NOT NULL
None	PARTITION	CHAR(7) NOT NULL WITH DEFAULT
None	DDNAME	CHAR(8) NOT NULL
None	DATASET_ID	CHAR(4) NOT NULL
DB_DS_NAME	DS_NAME	CHAR(44) NOT NULL WITH DEFAULT
DBX_DS_NAME		
DB_DS_ORG	DS_ORG	CHAR(4) NOT NULL WITH DEFAULT
DBX_DS_ORG		
DB_FLAG_SMS	FLAG_SMS	CHAR(1)
DBX_FLAG_SMS		
DB_FLAG_EXT_CONST_REMOV	FLAG_EXT_CONST_REMOV	CHAR(1)
DBX_FLAG_EXT_CONST_REMOV		
DB_FLAG_SPACE_TYPE	FLAG_SPACE_TYPE	CHAR(1)
DBX_FLAG_SPACE_TYPE		
DB_MAX_EXT_DS	MAX_EXT_DS	INTEGER
DBX_MAX_EXT_DS		
DB_MAX_EXT_VOL	MAX_EXT_VOL	INTEGER
DBX_MAX_EXT_VOL		
DB_AVAIL_EXT_LESS_100	AVAIL_EXT_LESS_100	CHAR(1)
DBX_AVAIL_EXT_LESS_100		
DB_AVAIL_EXT_LIMIT	AVAIL_EXT_LIMIT	CHAR(16)
DBX_AVAIL_EXT_LIMIT		

Table 27. Column names and attributes for IMSDSSTAT data stream (continued)

<b>Data element name</b>	<b>CSV column name</b>	<b>Db2 column attribute</b>
DB_NUM_AVAIL_EXT	NUM_AVAIL_EXT	INTEGER
DBX_NUM_AVAIL_EXT		
DB_NUM_EXT	NUM_EXT	INTEGER
DBX_NUM_EXT		
DB_RBA_HIGH_USED	RBA_HIGH_USED	BIGINT
DBX_RBA_HIGH_USED		
DB_RBA_HIGH_ALLOC	RBA_HIGH_ALLOC	BIGINT
DBX_RBA_HIGH_ALLOC		
DB_NUM_VOL	NUM_VOL	INTEGER
DBX_NUM_VOL		
DB_NUM_UNUSED_VOL	NUM_UNUSED_VOL	INTEGER
DBX_NUM_UNUSED_VOL		
DB_NUM_UNUSED_VOL_SER	NUM_UNUSED_VOL_SER	INTEGER
DBX_NUM_UNUSED_VOL_SER		
DB_NUM_UNUSED_VOL_CAND	NUM_UNUSED_VOL_CAND	INTEGER
DBX_NUM_UNUSED_VOL_CAND		
DB_NUM_PRI_SPACE	NUM_PRI_SPACE	INTEGER
DBX_NUM_PRI_SPACE		
DB_NUM_SEC_SPACE	NUM_SEC_SPACE	INTEGER
DBX_NUM_SEC_SPACE		
DB_UNUSED_BYTES	UNUSED_BYTES	BIGINT
DBX_UNUSED_BYTES		
DB_PCT_UNUSED_BYTES	PCT_UNUSED_BYTES	SMALLINT
DBX_PCT_UNUSED_BYTES		
DB_MAX_DS_SIZE	MAX_DS_SIZE	SMALLINT
DBX_MAX_DS_SIZE		
DB_PCT_OF_MAX_DS_SIZE	PCT_OF_MAX_DS_SIZE	SMALLINT
DBX_PCT_OF_MAX_DS_SIZE		
DB_NUM_DBDS_BLOCKS	NUM_DBDS_BLOCKS	INTEGER
DBX_NUM_DBDS_BLOCKS		
DB_NUM_ALLOCATED_BLOCKS	NUM_ALLOCATED_BLOCKS	INTEGER

Table 27. Column names and attributes for IMSDSSTAT data stream (continued)

Data element name	CSV column name	Db2 column attribute
DB_BLOCK_SIZE	BLOCK_SIZE	INTEGER
DBX_BLOCK_SIZE		
DB_LRECL_SIZE	LRECL_SIZE	INTEGERD
DBX_LRECL_SIZE		
DB_NUM_CI_SPLIT	NUM_CI_SPLIT	BIGINT
DBX_NUM_CI_SPLIT		
DB_PCT_NUM_CI_SPLIT	PCT_NUM_CI_SPLIT	SMALLINT
DBX_PCT_NUM_CI_SPLIT		
DB_NUM_CA_SPLIT	NUM_CA_SPLIT	BIGINT
DBX_NUM_CA_SPLIT		
DB_PCT_NUM_CA_SPLIT	PCT_NUM_CA_SPLIT	SMALLINT
DBX_PCT_NUM_CA_SPLIT		
DB_NUM_SEG	NUM_SEG	BIGINT
DB_NUM_VLSEG	NUM_VLSEG	BIGINT
DB_NUM_VLSEG_SPLIT	NUM_VLSEG_SPLIT	BIGINT
DB_PCT_NUM_VLSEG_SPLIT	PCT_NUM_VLSEG_SPLIT	SMALLINT
DB_NUM_DELSEG	NUM_DELSEG	BIGINT
DB_BYTES_SEG	BYTES_SEG	BIGINT
DB_PCT_BYTES_SEG	PCT_BYTES_SEG	SMALLINT
DB_PCT_NUM_DELSEG	PCT_NUM_DELSEG	SMALLINT
DB_NUM_PTR	NUM_PTR	BIGINT
DB_NUM_PTR_DIFF_BLK	NUM_PTR_DIFF_BLK	BIGINT
DB_PCT_NUM_PTR_DIFF_BLK	PCT_NUM_PTR_DIFF_BLK	SMALLINT
DB_NUM_FSE	NUM_FSE	BIGINT
DB_NUM_FSE_MIN	NUM_FSE_MIN	BIGINT
DB_NUM_FSE_MAX	NUM_FSE_MAX	BIGINT
DB_AVG_NUM_FSE	AVG_NUM_FSE	DECIMAL(12,2)
DB_AVG_NUM_NOREUSE_FSE	AVG_NUM_NOREUSE_FSE	DECIMAL(12,2)
DB_PCT_NUM_NOREUSE_FSE	PCT_NUM_NOREUSE_FSE	SMALLINT
DB_BYTES_FREE_SPACE	BYTES_FREE_SPACE	BIGINT
DB_PCT_BYTES_FREE_SPACE	PCT_BYTES_FREE_SPACE	SMALLINT
DB_BYTES_UNIDENTIFIED	BYTES_UNIDENTIFIED	BIGINT
DB_NUM_UNIDENTIFIED	NUM_UNIDENTIFIED	BIGINT
DB_AVG_NUM_UNIDENTIFIED	AVG_NUM_UNIDENTIFIED	DECIMAL(12,2)

---

*Table 27. Column names and attributes for IMSDSSTAT data stream (continued)*

<b>Data element name</b>	<b>CSV column name</b>	<b>Db2 column attribute</b>
DB_PCT_NUM_FRAGD_FSE	PCT_NUM_FRAGD_FSE	SMALLINT
DB_AVG_NUM_FRAGD_FSE	AVG_NUM_FRAGD_FSE	DECIMAL(11,2)
None	MISSING_DATA_REASON	CHAR(8)

---

### Column names and attributes for DEDBSTAT data stream

---

*Table 28. Column names and attributes for DEDBSTAT data stream*

<b>Data element name</b>	<b>CSV column name</b>	<b>Db2 Column attribute</b>
None	RECORD_TIMESTAMP	TIMESTAMP(3) WITH TIME ZONE NOT NULL
None	SYSPLEX	CHAR(8) NOT NULL
None	ITKBSRVR	CHAR(8) NOT NULL
None	RECON_ID	CHAR(8) NOT NULL
None	DBD	CHAR(8) NOT NULL
None	AREA	CHAR(8) NOT NULL
DB_FLAG_UOW_DATA	FLAG_UOW_DATA	CHAR(1)
DB_FLAG_UOW_GROUP_DATA	FLAG_UOW_GROUP_DATA	CHAR(1)
DB_PCT_BYTES_FS_RAA	PCT_BYTES_FS_RAA	SMALLINT
DB_PCT_BYTES_FS_DOVF	PCT_BYTES_FS_DOVF	SMALLINT
DB_PCT_BYTES_FS_IOVF	PCT_BYTES_FS_IOVF	SMALLINT
DB_PCT_BYTES_FS_SDEP	PCT_BYTES_FS_SDEP	SMALLINT
DB_PCT_NUM_UOW_USE_DOVF	PCT_NUM_UOW_USE_DOVF	SMALLINT
DB_AVG_NUM_DOVFCI_BY_UOW	AVG_NUM_DOVFCI_BY_UOW	DECIMAL(8,2)
DB_MAX_NUM_DOVFCI_BY_UOW	MAX_NUM_DOVFCI_BY_UOW	SMALLINT
DB_PCT_NUM_UOW_USE_IOVF	PCT_NUM_UOW_USE_IOVF	SMALLINT
DB_NUM_UOW_USE_IOVF	NUM_UOW_USE_IOVF	SMALLINT
DB_AVG_NUM_IOVFCI_BY_UOW	AVG_NUM_IOVFCI_BY_UOW	DECIMAL(10,2)
DB_MAX_NUM_IOVFCI_BY_UOW	MAX_NUM_IOVFCI_BY_UOW	INTEGER
DB_MIN_NUM_IOVFCI_BY_UOW	MIN_NUM_IOVFCI_BY_UOW	INTEGER
DB_PCT_NUM_IOVFCI_USED	PCT_NUM_IOVFCI_USED	SMALLINT
DB_PCT_NUM_RAPCI_OVFL	PCT_NUM_RAPCI_OVFL	SMALLINT
DB_NUM_SEG	NUM_SEG	BIGINT
DB_NUM_ROOT	NUM_ROOT	BIGINT
DB_AVG_DBREC_LENGTH	AVG_DBREC_LENGTH	DECIMAL(16,2)
DB_MAX_DBREC_LENGTH	MAX_DBREC_LENGTH	BIGINT

---

Table 28. Column names and attributes for DEDBSTAT data stream (continued)

Data element name	CSV column name	Db2 Column attribute
DB_MIN_DBREC_LENGTH	MIN_DBREC_LENGTH	BIGINT
DB_PCT_NUM_DBREC_IOVF	PCT_NUM_DBREC_IOVF	SMALLINT
DB_AVG_LEN_SYNONYM_CHAIN	AVG_LEN_SYNONYM_CHAIN	DECIMAL(12,2)
DB_MAX_LEN_SYNONYM_CHAIN	MAX_LEN_SYNONYM_CHAIN	BIGINT
DB_AVG_DBREC_IO	AVG_DBREC_IO	DECIMAL(10,2)
DB_ESTIMATED_DBREC_IO	ESTIMATED_DBREC_IO	DECIMAL(11,2)
DB_MAX_DBREC_IO	MAX_DBREC_IO	INTEGER
DB_AVG_ROOT_IO	AVG_ROOT_IO	DECIMAL(10,2)
DB_ESTIMATED_ROOT_IO	ESTIMATED_ROOT_IO	DECIMAL(11,2)
DB_MAX_ROOT_IO	MAX_ROOT_IO	INTEGER
DB_AREADEF_CISIZE	AREADEF_CISIZE	SMALLINT
DB_AREADEF_UOW1	AREADEF_UOW1	SMALLINT
DB_AREADEF_UOW2	AREADEF_UOW2	SMALLINT
DB_AREADEF_ROOT1	AREADEF_ROOT1	SMALLINT
DB_AREADEF_ROOT2	AREADEF_ROOT2	SMALLINT
DB_AREADEF_NUM_SDEP_CIS	AREADEF_NUM_SDEP_CIS	INTEGER
DB_NUM_UOW_GROUPS	NUM_UOW_GROUPS	SMALLINT
DB_SENSOR_DATA_GROUP_ID	SENSOR_DATA_GROUP_ID	CHAR(4)
DB_NUM_UOW_RFS_COND	NUM_UOW_RFS_COND	SMALLINT
DB_PCT_NUM_UOW_RFS_COND	PCT_NUM_UOW_RFS_COND	SMALLINT
DB_THRESHOLD_RBASEFS	THRESHOLD_RBASEFS	SMALLINT
DB_THRESHOLD_RDOVFFS	THRESHOLD_RDOVFFS	SMALLINT
None	MISSING_DATA_REASON	CHAR(8)

## Running the Data Publisher Utility

The Data Publisher Utility runs as a standard z/OS batch job. To export sensor data from the Sensor Data repository and generate Db2 DDL statements and LOAD control statements, code the Data Publisher Utility JCL and run the job.

### Procedure

1. Write the EXEC and DD statements.

For the format of the EXEC statement and the list of DD statements, see [“EXEC and DD statements for the Data Publisher Utility” on page 149](#).

2. Code the control statements in the HKTSYSIN data set.

For the syntax of the control statements, see [“Control statements for the Data Publisher Utility” on page 152](#). For JCL examples, see [“JCL examples for the Data Publisher Utility” on page 169](#).

The following figure shows a JCL example for the Data Publisher Utility:

```

//HKTUTIL0 JOB CLASS=A
//PGM1      EXEC PGM=HKTUTIL0,PARM='FUNC=PUBLISH_SENSOR'
//STEPLIB   DD DISP=SHR,DSN=ITB.SHKTLOAD
//HKTUJRNL DD SYSOUT=*
//FFDBCSV  DD DISP=SHR,DSN=ITB.CSV.IMSDBST
//FFDSCSV  DD DISP=SHR,DSN=ITB.CSV.IMSDSST
//DEDBCSV  DD DISP=SHR,DSN=ITB.CSV.DEDBST
//FFDBDDL  DD DISP=SHR,DSN=ITB.DB2DDL.IMSDBST
//FFDSDDL  DD DISP=SHR,DSN=ITB.DB2DDL.IMSDSST
//DEDBDDL  DD DISP=SHR,DSN=ITB.DB2DDL.DEDBST
//FFDBLOAD  DD DISP=SHR,DSN=ITB.DB2LOAD.IMSDBST
//FFDSLOAD  DD DISP=SHR,DSN=ITB.DB2LOAD.IMSDSST
//DEDBLOAD  DD DISP=SHR,DSN=ITB.DB2LOAD.DEDBST
//HKTSYSIN DD *
      OUTPUT_TYPE(CSV DB2DDL DB2LOAD)
      ITKBSRVR(FPQSRV01)
      DB2TABLE_NAME(
          IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))
          IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))
          DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3)))
      )
/*

```

*Figure 91. Data Publisher Utility: JCL example*

3. Run the Data Publisher Utility job to export data into CSV data sets and generate CREATE TABLE DDL statements and Db2 LOAD control statements. Ensure that the return code is 0.

For examples of the Data Publisher Utility output, see the following topics:

- [“CSV Exported Sensor Data report” on page 161](#)
  - [“Db2 DDL Statement report” on page 162](#)
  - [“Db2 LOAD Control Statement report” on page 165](#)
4. Db2 DBA step: Modify the generated CREATE TABLE DDL statements. If necessary, add CREATE TABLESPACE statements, CREATE INDEX statements, and other DDL statements.
  5. Db2 DBA step: Run the Db2 dynamic SQL program to execute the generated DDL statements. Db2 tables and indexes will be created.
  6. Db2 DBA step: Run the Db2 LOAD online utility to load the CSV data into Db2 tables.

## EXEC and DD statements for the Data Publisher Utility

You must specify an EXEC statement and DD statements that define the input and output data sets in your JCL.

Subsections:

- [“EXEC statement” on page 149](#)
- [“Summary of DD statements” on page 150](#)
- [“DD statements for input” on page 151](#)
- [“DD statements for output” on page 151](#)

### EXEC statement

The EXEC statement must in the following format:

```
//STEP EXEC PGM=HKTUTIL0,PARM='FUNC=PUBLISH_SENSOR'
```

The EXEC statement in the batch JCL contains one keyword specification in the PARM field: FUNC=.

#### **FUNC**

Identifies which IMS Tools KB utility is to be invoked.

To invoke the Data Publisher Utility, specify PUBLISH\_SENSOR.

## Summary of DD statements

DD statements of the Data Publisher Utility determine the input and output data sets and specify how to run the Data Publisher Utility.

The following table summarizes the DD statements for the Data Publisher Utility.

*Table 29. DD statements for the Data Publisher Utility*

DD name	Use	Format	Can be dynamically allocated?	Required or optional?
STEPLIB	Input	RECFM=U	No	Required
HKTSYSIN	Input	RECFM=FB,LRECL=80	No	Required
HKTUJRNL	Output	RECFM=FBA,LRECL=133	Yes	Optional
FFDBCSV	Output	RECFM=VB,LRECL=32760	No	Required if both OUTPUT_TYPE(CSV) and CSV(IMSDBSTAT) are specified in HKTSYSIN
FFDSCSV	Output	RECFM=VB,LRECL=32760	No	Required if both OUTPUT_TYPE(CSV) and CSV(IMSDBSTAT) are specified in HKTSYSIN
DEDBCSV	Output	RECFM=VB,LRECL=32760	No	Required if both OUTPUT_TYPE(CSV) and CSV(DEDBSTAT) are specified in HKTSYSIN
FFDBDDL	Output	RECFM can be any valid value but not U, VS, or VBS.	No	Required if both OUTPUT_TYPE(DB2DDL) and DB2DDL(IMSDBSTAT) are specified in HKTSYSIN
FFDSDDL	Output	RECFM can be any valid value but not U, VS, or VBS.	No	Required if both OUTPUT_TYPE(DB2DDL) and DB2DDL(IMSDBSTAT) are specified in HKTSYSIN
DEDBDDL	Output	RECFM can be any valid value but not U, VS, or VBS.	No	Required if both OUTPUT_TYPE(DB2DDL) and DB2DDL(DEDBSTAT) are specified in HKTSYSIN
FFDBLOAD	Output	RECFM can be any valid value but not U, VS, or VBS.	No	Required if both OUTPUT_TYPE(DB2LOAD) and DB2LOAD(IMSDBSTAT) are specified in HKTSYSIN
FFDSLOAD	Output	RECFM can be any valid value but not U, VS, or VBS.	No	Required if both OUTPUT_TYPE(DB2LOAD) and DB2LOAD(IMSDBSTAT) are specified in HKTSYSIN
DEDBLOAD	Output	RECFM can be any valid value but not U, VS, or VBS.	No	Required if both OUTPUT_TYPE(DB2LOAD) and DB2LOAD(DEDBSTAT) are specified in HKTSYSIN

## DD statements for input

The following input DD statements are used for the Data Publisher Utility.

### **STEPLIB**

This DD statement is required. It specifies the load module library of IMS Tools Base (SHKTLOAD).

### **HKTSYSIN**

This DD statement is required. It specifies the input control statements that control the Data Publisher Utility functions.

The HKTSYSIN DD statement can be coded as a standard SYSIN file, a sequential data set, or a PDS member. LRECL=80 is required for the DCB of this data set.

For details about coding the HKTSYSIN DD statement, see [“Control statements for the Data Publisher Utility” on page 152](#).

## DD statements for output

The following output DD statements are used for the Data Publisher Utility.

### **HKTUJRNL**

This DD statement is optional. It specifies the processing log output data set, which stores processing messages that are issued by the Data Publisher Utility.

If you do not specify this DD statement, the Data Publisher Utility dynamically allocates the data set by using SYSOUT=\*.

### **FFDBCSV**

This DD statement specifies the CSV data set for the IMSDBSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(CSV) and CSV(IMSDBSTAT) in the control statement.

### **FFDSCSV**

This DD statement specifies the CSV data set for the IMSDSSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(CSV) and CSV(IMSDSSTAT) in the control statement.

### **DEDBCSV**

This DD statement specifies the CSV data set for the DEDBSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(CSV) and CSV(DEDBSTAT) in the control statement.

### **FFDBDDL**

This DD statement specifies the data set for the Db2 DDL statement for the IMSDBSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(DB2DDL) and DB2DDL(IMSDBSTAT) in the control statement.

### **FFDSDDL**

This DD statement specifies the data set for the Db2 DDL statement for the IMSDSSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(DB2DDL) and DB2DDL(IMSDSSTAT) in the control statement.

### **DEDBDDL**

This DD statement specifies the data set for the Db2 DDL statement for the DEDBSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(DB2DDL) and DB2DDL(DEDBSTAT) in the control statement.

### **FFDBLOAD**

This DD statement specifies the data set for the Db2 LOAD control statement for the IMSDBSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(DB2LOAD) and DB2LOAD(IMSDBSTAT) in the control statement.

#### **FFDSLOAD**

This DD statement specifies the data set for the Db2 LOAD control statement for the IMSDSSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(DB2LOAD) and DB2LOAD(IMSDBSTAT) in the control statement.

#### **DEDBLOAD**

This DD statement specifies the data set for the Db2 LOAD control statement for the DEDBSTAT data stream.

This DD statement is required if you specify both OUTPUT\_TYPE(DB2LOAD) and DB2LOAD(DEDBSTAT) in the control statement.

## **Control statements for the Data Publisher Utility**

---

The control statements for the Data Publisher Utility control the functions of the Data Publisher Utility.

The control statement must be specified in the HKTSYSIN data set. This control statement data set generally resides in the input stream. However, it can also be defined as a sequential data set or as a member of a partitioned data set. It must contain 80-byte, fixed-length records. The block size, if coded, must be a multiple of 80.

The control statement must be coded in columns 1 - 72. Columns 73 - 80 are regarded as comments and ignored.

Subsections:

- [“Format of the control statement” on page 152](#)
- [“Summary of keywords” on page 153](#)
- [“Description of keywords” on page 154](#)

### **Format of the control statement**

The control statement includes a set of keywords, parameters, and comments that are specified in the HKTSYSIN data set.

#### **Keywords**

A keyword defines an option for the Data Publisher Utility. Keywords can be specified in any order, and any two adjacent keywords must be separated by a blank or a comma. Each keyword has one or more associated parameters.

#### **Parameters**

A parameter defines a value for the associated keyword. Some keywords require only one parameter and others require one or more parameters. Parameters must be character or numeric values.

A keyword and the associated parameters are separated by parentheses. If two or more parameters are specified, any two adjacent parameters must be separated by a blank or a comma. For example,

```
keyword(parameter)
keyword(parameter1,parameter2,parameter3)
keyword(parameter1 parameter2 parameter3)
```

#### **Comments**

You can include comments in the HKTSYSIN data set by marking a line with an asterisk (\*) in column 1.

The Data Publisher Utility ignores the comment line when analyzing the control statement in the HKTSYSIN data set.

## Summary of keywords

The following table summarizes the keywords of the control statement for the Data Publisher Utility.

*Table 30. Keywords for the Data Publisher Utility*

Keyword	Required or optional	Default	Description
CSV	Optional	IMSDBSTAT, IMSDSSTAT, DEDBSTAT	Specifies one or more data streams to export to the CSV data set.
CSV_HEADER	Optional	NO	Specifies that a header record, containing the column names, is added as the first record in each CSV data set.
DB2DDL	Optional	IMSDBSTAT, IMSDSSTAT, DEDBSTAT	Specifies one or more data streams for which to generate Db2 DDL statements to create Db2 tables.
DB2LOAD	Optional	IMSDBSTAT, IMSDSSTAT, DEDBSTAT	Specifies one or more data streams for which to generate Db2 LOAD control statements.
DB2LOAD_REPLACE	Optional	N/A	Adds the REPLACE option, which deletes all data from the Db2 tables before the CSV data is loaded, to the Db2 LOAD control statements.
DB2TABLE_NAME	Required if the DB2DDL, DB2LOAD, or both parameters are specified for the OUTPUT_TYPE keyword.	N/A	Specifies the name of the Db2 table to load data into for each data stream.
DBDNAME	Optional	N/A	Specifies the name of the database. Sensor data that is collected from the specified database is exported.
DDN_MAP	Optional	CSV( IMSDBSTAT(FFDBCSV) IMSDSSTAT(FFDSCSV) DEDBSTAT(DEDBCSV)) DB2LOAD( IMSDBSTAT(FFDBLOAD) IMSDSSTAT(FFDSLOAD) DEDBSTAT(DEDBLOAD)) DB2DDL( IMSDBSTAT(FFDBDDL) IMSDSSTAT(FFDSDDL) DEDBSTAT(DEDBDDL))	Specifies the DD names for the output data sets for storing CSV data, Db2 DDL statements, and Db2 LOAD control statements. Use this keyword if you want to change the DD names of output data sets.

Table 30. Keywords for the Data Publisher Utility (continued)

Keyword	Required or optional	Default	Description
DELIMITERS	Optional	COLDEL(X'6B') DECPT(X'4B')	Specifies the column delimiter and decimal point character for the CSV data.
ITKBSRVR	Required if the OUTPUT_TYPE(CSV) keyword is specified	N/A	Specifies the name of the IMS Tools KB server XCF group and the RECON ID.
OUTPUT_TYPE	Required	N/A	Specifies the types of output to generate; CSV, Db2 DDL statements, and Db2 LOAD control statements.
TIMESTAMP	Optional	TIMEZONE(UTC)	Specifies the range of timestamps for the sensor data to be exported. The range can be specified in UTC or in the local time zone.

## Description of keywords

The following keywords are available for the control statement.

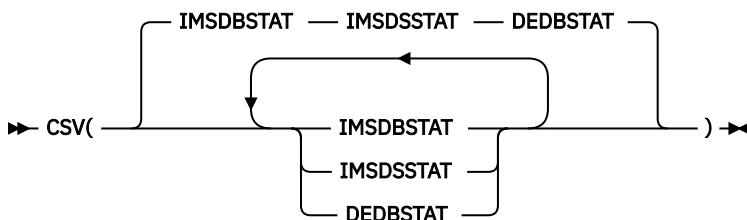
### CSV

Specifies one or more data streams to export to the CSV data set.

This keyword is effective when OUTPUT\_TYPE(CSV) is specified.

CSV is an optional keyword.

Format:



### IMSDBSTAT

Generates the CSV data set for the IMSDBSTAT data stream, which contains sensor data for non-partitioned full-function databases and HALDB partitions.

The CSV data set must be allocated with the FFDBCSV DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

### IMSDSSTAT

Generates the CSV data set for the IMSDSSTAT data stream, which contains sensor data for database data set groups.

The CSV data set must be allocated with the FFDSCSV DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

### DEDBSTAT

Generates the CSV data set for the DEDBSTAT data stream, which contains sensor data for DEDB areas.

The CSV data set must be allocated with the DEDBCSV DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

Default value is CSV(IMSDBSTAT IMSDSSTAT DEDBSTAT).

### **CSV\_HEADER**

Specifies that a header record, containing the column names, is added as the first record in each CSV data set.

This keyword is effective when OUTPUT\_TYPE(CSV) is specified.

CSV\_HEADER is an optional keyword.

Format:

```
► CSV_HEADER( NO YES ) ►
```

#### **YES**

Adds a header record.

#### **NO**

Does not add a header record.

Default value is CSV\_HEADER(NO)

### **DB2DDL**

Specifies one or more data streams for which to generate Db2 DDL statements to create Db2 tables.

This keyword is effective when OUTPUT\_TYPE(DB2DDL) is specified.

DB2DDL is an optional keyword.

Format:

```
► DB2DDL( IMSDBSTAT — IMSDSSTAT — DEDBSTAT ) ►
```

IMSDBSTAT  
IMSDSSTAT  
DEDBSTAT

#### **IMSDBSTAT**

Generates a CREATE TABLE DDL statement for the IMSDBSTAT data stream.

The data set for storing the DDL statement must be allocated with the FFDBDDL DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

#### **IMSDSSTAT**

Generates a CREATE TABLE DDL statement for the IMSDSSTAT data stream.

The data set for storing the DDL statement must be allocated with the FFDSDDL DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

#### **DEDBSTAT**

Generates a CREATE TABLE DDL statement for the DEDBSTAT data stream.

The data set for storing the DDL statement must be allocated with the DEDBDDL DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

Default value is DB2DDL(IMSDBSTAT IMSDSSTAT DEDBSTAT).

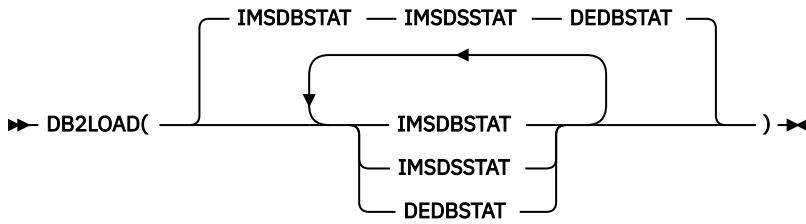
### **DB2LOAD**

Specifies one or more data streams for which to generate Db2 LOAD control statements.

This keyword is effective when OUTPUT\_TYPE(DB2LOAD) is specified.

DB2LOAD is an optional keyword.

Format:



### **IMSDBSTAT**

Generates a Db2 LOAD control statement for the IMSDBSTAT data stream.

The data set for storing the LOAD control statement must be allocated with the FFDBLOAD DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

### **IMSDSSTAT**

Generates a Db2 LOAD control statement for the IMSDSSTAT data stream.

The data set for storing the LOAD control statement must be allocated with the FFDSLOAD DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

### **DEDBSTAT**

Generates a Db2 LOAD control statement for the DEDBSTAT data stream.

The data set for storing the LOAD control statement must be allocated with the DEDBLOAD DD statement or with the DD statement that you specify with the DDN\_MAP keyword.

Default value is DB2LOAD(IMSDBSTAT IMSDSSTAT DEDBSTAT).

### **DB2LOAD\_REPLACE**

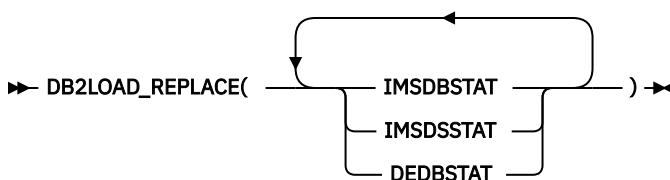
Adds the REPLACE option, which deletes all data from the Db2 tables before the CSV data is loaded, to the Db2 LOAD control statements.

If this keyword is not specified, the Db2 LOAD control statements are generated with the RESUME YES option. When the RESUME YES option is enabled, CSV data are loaded into the Db2 tables starting from the point where the previous load ended, and the data in the tables are accumulated.

This keyword is effective when OUTPUT\_TYPE(DB2LOAD) is specified and the corresponding data stream is specified in the DB2LOAD keyword.

DB2LOAD\_REPLACE is an optional keyword.

Format:



### **IMSDBSTAT**

Adds the REPLACE option to the Db2 LOAD control statement for the IMSDBSTAT data stream.

### **IMSDSSTAT**

Adds the REPLACE option to the Db2 LOAD control statement for the IMSDSSTAT data stream.

### **DEDBSTAT**

Adds the REPLACE option to the Db2 LOAD control statement for the DEDBSTAT data stream.

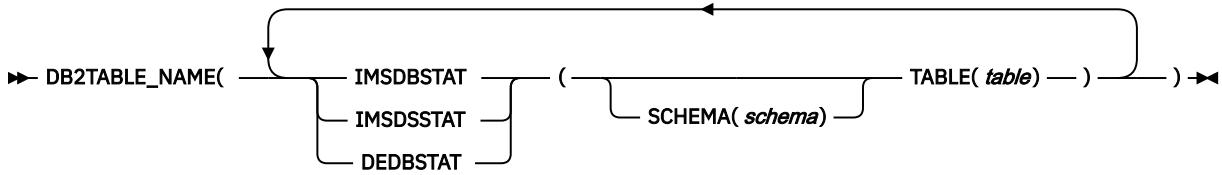
There is no default value. If this keyword is omitted, Db2 LOAD control statements are generated with the RESUME YES option.

### **DB2TABLE\_NAME**

Specifies the name of the Db2 table to load data into for each data stream.

DB2TABLE\_NAME is a required keyword when the DB2DDL, DB2LOAD, or both parameters are specified in the OUTPUT\_TYPE keyword.

Format:



**schema**

Specifies the name of the schema for the Db2 table.

**table**

Specifies the name of the Db2 table.

If schema is also specified, the name of the Db2 table in the generated Db2 LOAD control statement will be *schema.table*.

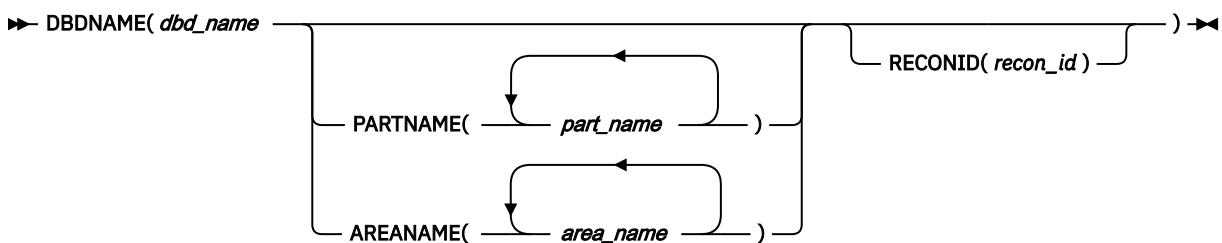
There is no default value.

**DBDNAME**

Specifies the name of the database. Sensor data that is collected from the specified database is exported.

DBDNAME is an optional keyword.

Format:



**dbd\_name**

Specifies a 1- to 8-character DBD name.

**part\_name**

Specifies a 1- to 7-character HALDB partition name. If this parameter is specified, DBD name (dbd\_name) must specify the name of a HALDB.

**area\_name**

Specifies a 1- to 8-character DEDB area name. If this parameter is specified, DBD name (dbd\_name) must specify the name of a DEDB.

**recon\_id**

Specifies a 1- to 8-character RECON ID. This parameter specifies the RECON ID associated with the RECON1 data set name registered in the IMS Tools KB repository.

If this parameter is specified, sensor data of the specified database (dbd\_name) associated with this RECON ID is exported.

This parameter can be specified only if the RECONID parameter of the ITKBSRVR keyword is not specified.

There is no default value.

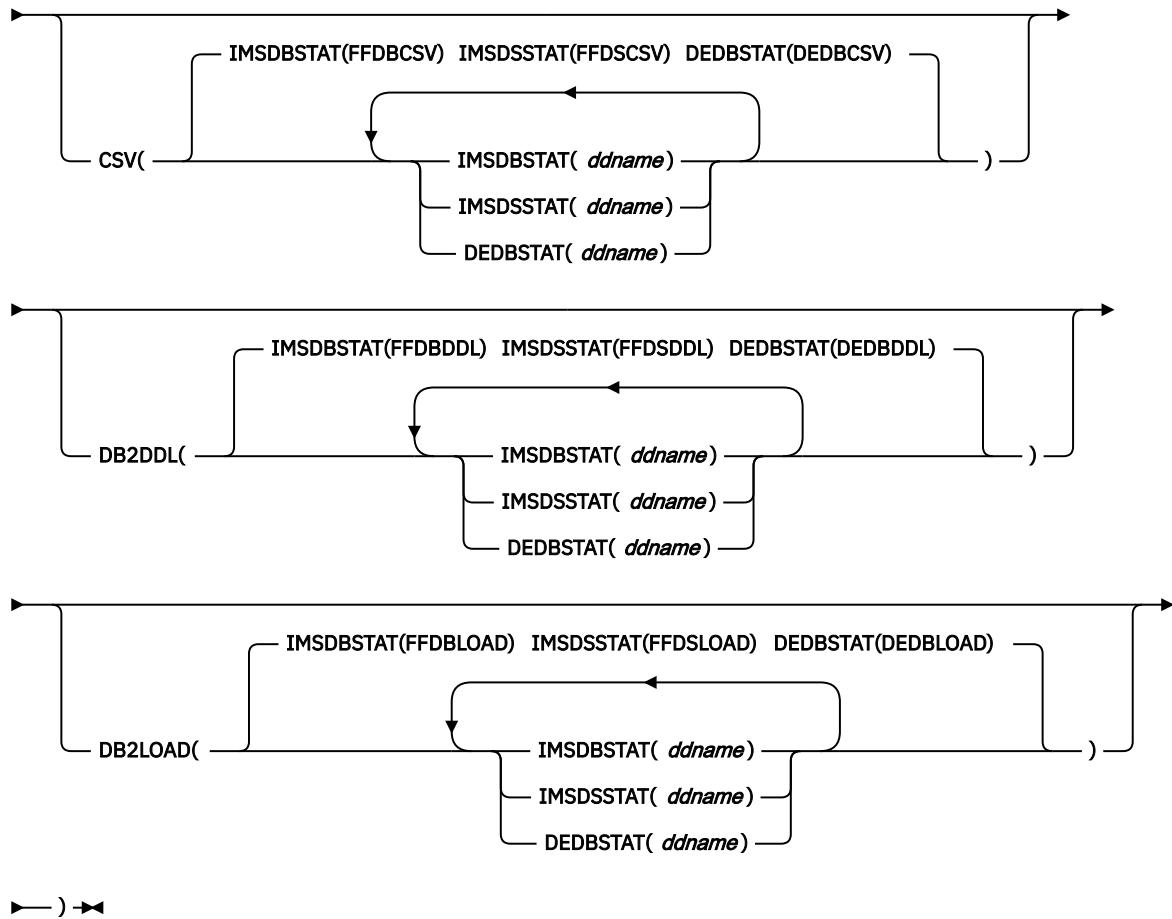
**DDN\_MAP**

Specifies the DD names for the output data sets for storing CSV data, Db2 DDL statements, and Db2 LOAD control statements. Use this keyword if you want to change the DD names of output data sets.

DDN\_MAP is an optional keyword.

Format:

►► DDN\_MAP — (→



#### ***ddname***

Specifies the DD name for the output data set.

Default value is:

```
DDN_MAP(CSV(IMSDBSTAT(FFDBCSV) IMSDSSTAT(FFDSCSV) DEDBSTAT(DEDBCSV))
DB2DDL(IMSDBSTAT(FFDBDDL) IMSDSSTAT(FFDSDDL) DEDBSTAT(DEDBDDL))
DB2LOAD(IMSDBSTAT(FFDBLOAD) IMSDSSTAT(FFDSLOAD) DEDBSTAT(DEDBLOAD)))
```

#### **DELIMITERS**

Specifies the column delimiter and decimal point character for the CSV data.

The specified values are applied to the FORMAT DELIMITED option in Db2 LOAD control statements. These values can be provided in either hexadecimal format (X'xx') or character format (C'c').

This keyword is effective when the CSV, DB2LOAD, or both parameters are specified in the OUTPUT\_TYPE keyword.

DELIMITERS is an optional keyword.

Format:

```
►► DELIMITERS(COLDEL(X'6B') — DECPT(X'4B') —
COLDEL(coldel) — DECPT(decpt) — )-->
```

#### ***coldel***

Specifies the column delimiter.

The value must not be the same as the DECP value or the default CHARDEL (character string delimiter) value, which is the double quotation mark (X'7F').

If this parameter is omitted, the hexadecimal value X'6B' is used by default, which represents a comma (,) as the column delimiter.

#### **decpt**

Specifies the decimal point character.

The value must not be the same as the COLDEL value or the default CHARDEL (character string delimiter) value, which is the double quotation mark (X'7F').

If this parameter is omitted, the hexadecimal value X'4B' is used by default, which represents a period (.) as the decimal point character.

Default value is DELIMITERS(COLDEL(X'6B') DECPT(X'4B')).

#### **ITKBSRVR**

Specifies the name of the IMS Tools KB server XCF group and the RECON ID. The sensor data is exported from the IMS Tools KB Sensor Data repository, which is managed by the IMS Tools KB server.

ITKBSRVR is a required keyword when the OUTPUT\_TYPE(CSV) keyword is specified.

Format:



#### **server\_name**

Specifies a 1- to 8-character IMS Tools KB server XCF group name.

#### **recon\_id**

Specifies a 1- to 8-character RECON ID. This parameter specifies a RECON ID that is associated with the RECON1 data set name in the IMS Tools KB repository.

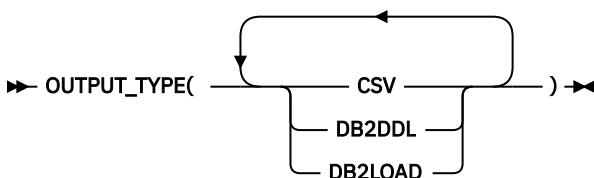
There is no default value.

#### **OUTPUT\_TYPE**

Specifies the types of output to generate; CSV, Db2 DDL statements, and Db2 LOAD control statements. You can specify up to three types.

OUTPUT\_TYPE is a required keyword.

Format:



#### **CSV**

Exports sensor data to CSV data sets.

#### **DB2DDL**

Generates a CREATE TABLE DDL statement for each existing or new CSV data set.

#### **DB2LOAD**

Generates a Db2 LOAD utility control statement for each existing or new CSV data set.

There is no default value.

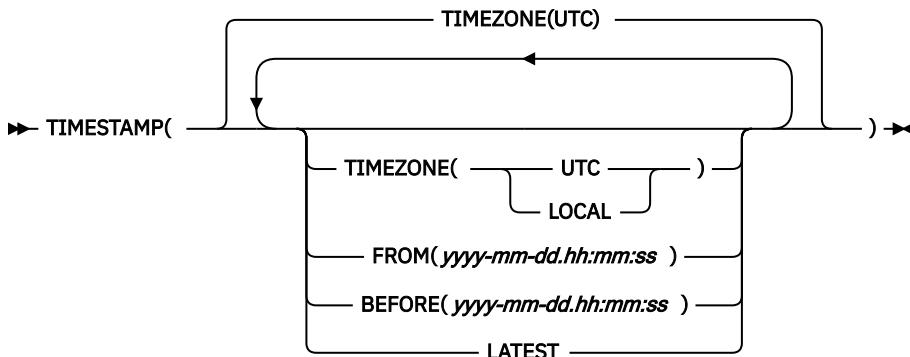
#### **TIMESTAMP**

Specifies the range of timestamps for the sensor data to be exported. The range can be specified in UTC or in the local time zone.

The selected time zone is applied to the ISO 8601 timestamp format for the timestamp column values in the output CSV records.

TIMESTAMP is an optional keyword.

Format:



### UTC

The timestamp column (RECORD\_TIMESTAMP) in the CSV data set is written in the UTC time zone.

If FROM, BEFORE, or both parameters are specified, the timestamps are compared in the UTC time zone.

### LOCAL

The timestamp column (RECORD\_TIMESTAMP) in the CSV data set is written in the local time zone.

If FROM, BEFORE, or both parameters are specified, the timestamps are compared in the local time zone.

### FROM(yyyy-mm-dd.hh:mm:ss)

Specifies the starting timestamp. The sensor data with timestamps on and after the specified timestamp are exported.

### BEFORE(yyyy-mm-dd.hh:mm:ss)

Specifies the ending timestamp. The sensor data with timestamps before the specified timestamp are exported.

### LATEST

Exports only the latest sensor data.

Default value is TIMESTAMP(TIMEZONE(UTC)).

## Output from the Data Publisher Utility

---

The Data Publisher Utility generates a Journal Messages report, CSV Exported Sensor Data report, Db2 DDL Statement report, and Db2 LOAD Control Statement report.

### Topics:

- [“Journal Messages report” on page 161](#)
- [“CSV Exported Sensor Data report” on page 161](#)
- [“Db2 DDL Statement report” on page 162](#)
- [“Db2 LOAD Control Statement report” on page 165](#)

## Journal Messages report

The Journal Messages report contains processing messages about the Data Publisher Utility job. This report is generated in the HKTUJRNL data set.

### Sample report

The following figure shows an example of the Journal Messages report:

```
Tools Base for z/OS          Journal Messages          Data Publisher Utility
5655-V93                   THE FOLLOWING OPTIONS ARE USED FOR THE DATA PUBLISHER UTILITY:
2024-08-31 00:55:364 HKT8001I THE DATA PUBLISHER UTILITY PROCESS HAS STARTED.
2024-08-31 00:55:364 HKT8031I - OUTPUT_TYPE     ... CSV,DB2DDL,DB2LOAD
2024-08-31 00:55:364 HKT8031I - ITKBSRVR      ... FPQSRV01
2024-08-31 00:55:364 HKT8031I - CSV           ... IMSDBSTAT,IMSDSSTAT,DEDBSTAT
2024-08-31 00:55:364 HKT8031I - CSV_HEADER     ... YES
2024-08-31 00:55:364 HKT8031I - DB2DDL       ... IMSDBSTAT,IMSDSSTAT,DEDBSTAT
2024-08-31 00:55:364 HKT8031I - DB2LOAD       ... IMSDBSTAT,IMSDSSTAT,DEDBSTAT
2024-08-31 00:55:364 HKT8031I - DB2LOAD_REPLACE ... IMSDBSTAT
2024-08-31 00:55:364 HKT8031I - DB2TABLE_NAME ... IMSDBSTAT(SCHEMA(SCHEMA1))
2024-08-31 00:55:364 HKT8031I - DDN_MAP       ... IMSDBSTAT(TABLE(TABLE1))
2024-08-31 00:55:364 HKT8031I - DEDBSTAT     ... IMSDSSTAT(SCHEMA(SCHEMA2))
2024-08-31 00:55:364 HKT8031I - DEDBSTAT     ... IMSDSSTAT(TABLE(TABLE2))
2024-08-31 00:55:364 HKT8031I - DEDBSTAT     ... DEDBSTAT(SCHEMA(SCHEMA3))
2024-08-31 00:55:364 HKT8031I - DEDBSTAT     ... DEDBSTAT(TABLE(TABLE3))
2024-08-31 00:55:364 HKT8031I - CSV          ... CSV(IMSDBSTAT(FFDBCSV)) IMSDSSTAT(FFDSCSV) DEDBSTAT(DEDBCSV)
2024-08-31 00:55:364 HKT8031I - DB2DDL       ... DB2DDL(IMSDBSTAT(FFDBDDL)) IMSDSSTAT(FFDSDL) DEDBSTAT(DEDBDDL)
2024-08-31 00:55:364 HKT8031I - DB2LOAD       ... DB2LOAD(IMSDBSTAT(FFDBLOAD)) IMSDSSTAT(FFDLOAD) DEDBSTAT(DEDBLOAD))
2024-08-31 00:55:364 HKT8031I - DELIMITERS    ... COLDEL(X'6B') DECP(X'4B')
2024-08-31 00:55:364 HKT8031I - TIMESTAMP     ... TIMEZONE(UTC)
2024-08-31 00:55:365 HKT8040I SENSOR DATA FOR DEBAR01 HAS BEEN EXTRACTED, THE NUMBER OF EXTRACTED GENERATION IS 360
2024-08-31 00:55:365 HKT8040I SENSOR DATA FOR HPART01 HAS BEEN EXTRACTED, THE NUMBER OF EXTRACTED GENERATION IS 52
2024-08-31 00:55:366 HKT8040I SENSOR DATA FOR HDMVSAM HAS BEEN EXTRACTED, THE NUMBER OF EXTRACTED GENERATION IS 12
2024-08-31 00:55:366 HKT8002I THE DATA PUBLISHER UTILITY PROCESS HAS ENDED NORMALLY.
```

Figure 92. Journal Messages report (Data Publisher Utility)

## CSV Exported Sensor Data report

The CSV Exported Sensor Data report contains data element values of sensor data, their collected dates, and information related to the IMS Tools KB server.

CSV Exported Sensor Data reports are in CSV (comma-separated-values) format and generated in the data sets specified by the FFDBCSV, FFDSCSV, and DEDBCSV DD statements or by the DD names in the DDN\_MAP keyword.

For a list of data elements exported for each data stream, see ["Data Publisher Utility data streams" on page 142](#). For the definitions of these data elements, see the topic "Data elements" in the *IMS Tools Base Policy Services User's Guide and Reference*.

### Sample report: IMSDBSTAT data stream

The following figure shows an example of the CSV Exported Sensor Data report with a header record for the IMSDBSTAT data stream:

```
RECORD_TIMESTAMP,SYSPLEX,ITKBSRVR,RECON_ID,DBD,PARTITION,DATABASE_TYPE,ACCESS_METHOD,FLAG_SENSOR_HOME,FLAG_SENSOR_DBINFO,FLAG_SEGMENT_STAT, ...
2024-08-25T23:16:47.123+00:00,SYSPLEX1,FPQSRV01,RECON1,AUTODB,,HDAM,OSAM,Y,Y,N,3,0,0,0,0,0,0,348,57,5,2,40,269.33,2,67,1,, ...
2024-08-25T23:13:25.177+00:00,SYSPLEX1,FPQSRV01,RECON1,DFSCD000,DFSCD01,PHIDAM,VSAM,,Y,,294,,21410.99,12.93,,292,, ...
2024-08-25T23:18:25.692+00:00,SYSPLEX1,FPQSRV01,RECON1,DFSCX000,DFSCX01,PSINDEX,VSAM,,Y,,294,,357,, ...
2024-08-25T23:15:11.098+00:00,SYSPLEX1,FPQSRV01,RECON1,DI21PART,,HISAM,VSAM,,Y,,67,,491.24,1.36,, ...
2024-08-25T22:17:25.718+00:00,SYSPLEX1,FPQSRV01,RECON2,IVPDB1,,HIDAM,VSAM,,N,,10,,487.60,4.20,, ...
2024-08-25T22:17:27.325+00:00,SYSPLEX1,FPQSRV01,RECON2,IVPDB1I,,HIDAM_Primary_Index,VSAM,,9,, ...
2024-08-25T22:17:27.831+00:00,SYSPLEX1,FPQSRV01,RECON2,SINDEX11,,Secondary_Index,VSAM,,2,0,0,, ...
2024-08-25T22:17:28.795+00:00,SYSPLEX1,FPQSRV01,RECON2,SINDEX22,,Secondary_Index,VSAM,,2,0,0,, ...
2024-08-25T23:15:24.687+00:00,SYSPLEX1,FPQSRV01,RECON2,H201P1,H201P11,PHIDAM,OSAM,Y,Y,N,27,0,0,0,0,0,0,1263,20,6,5,83,2436,1.61,1.39,, ...
```

Figure 93. CSV Exported Sensor Data report (Data Publisher Utility): IMSDBSTAT data stream example

### Sample report: IMSDSSTAT data stream

The following figure shows an example of the CSV Exported Sensor Data report with a header record for the IMSDSSTAT data stream:

```

RECORD_TIMESTAMP,SYSPLEX,ITKBSRVR,RECON_ID,DBD,PARTITION,DDNAME,dataset_id,ds_name,ds_org,flag_sms,flag_ext,const_remov,flag_space_type,....
2024-08-25T23:16:47.123+00:00,SYSPLEX1,FP0SRV01,RECON1,AUTODB,DFSDLR,DS01,,ITB,DFSDLR,Y,,C,120,16,Y,OSAM_MAXIMUM,15,1,10140,608400,1,0,0,0,1,2,....
2024-08-25T23:13:25.177+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCD000,DFSCD01,DFSCD01X,PRIM,KSDS,ITB,DFSCD01A,Y,,251,123,N,,1,737280,11059200,1,0,0,0,15,15,....
2024-08-25T23:13:25.177+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCD000,DFSCD01,DFSCD01A,DSGA,ESDS,ITB,DFSCD01A,Y,,C,120,16,Y,OSAM_MAXIMUM,15,1,737280,737280,....
2024-08-25T23:13:25.177+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCD000,DFSCD01,DFSCD01B,Y,,C,120,16,Y,OSAM_MAXIMUM,15,1,3686400,3686400,3686400,....
2024-08-25T23:13:25.177+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCD000,DFSCD01,DFSCD01C,DSGA,ESDS,ITB,DFSCD01C,Y,,C,120,16,Y,OSAM_MAXIMUM,15,1,3686400,3686400,3686400,....
2024-08-25T23:13:25.177+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCD000,DFSCD01,DFSCD01A,Y,,C,120,16,Y,OSAM_MAXIMUM,15,1,737280,737280,737280,....
2024-08-25T23:18:25.692+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCD000,DFSCD01,DFSCD01B,Y,,C,120,16,Y,OSAM_MAXIMUM,15,1,737280,11059200,1,0,0,0,15,....
2024-08-25T23:15:11.098+00:00,SYSPLEX1,FP0SRV01,RECON1,DFSCX000,DFSCX01A,DSGA,ESDS,ITB,DFSCX01A,Y,,C,251,123,N,,1,737280,2211840,1,0,0,0,3,3,2170880,....
2024-08-25T23:15:11.098+00:00,SYSPLEX1,FP0SRV01,RECON1,DF21PART,,DF21PART,PRIM,ESDS,ITB,DF21PART,Y,,C,251,123,N,,1,20480,2211840,1,0,0,0,3,3,2191360,....
2024-08-25T22:17:25.718+00:00,SYSPLEX1,FP0SRV01,RECON2,IVPDB1,,DFSCD000,PRIM,KSDS,ITB,DFSCD000,Y,,T,1,1,Y,VSAM_MAXIMUM,0,0,215840,215840,1,0,0,0,5,0,....
2024-08-25T22:17:28.831+00:00,SYSPLEX1,FP0SRV01,RECON2,SINDEX1,,SINDEX1P,PRIM,KSDS,ITB,SINDEX1P,Y,,C,251,123,N,,1,645120,645120,1,0,0,0,1,1,63972,100,....
2024-08-25T22:17:28.799+00:00,SYSPLEX1,FP0SRV01,RECON2,SINDEX2,,SINDEX2P,PRIM,KSDS,ITB,SINDEX2P,Y,,C,251,123,N,,1,506880,506880,1,0,0,0,1,1,505856,100,....
2024-08-25T23:15:24.687+00:00,SYSPLEX1,FP0SRV01,RECON2,H201P1,H201P11,DSGA,,ITB,H201P11A,Y,,C,120,16,Y,OSAM_MAXIMUM,15,21,32619,2364571,1,....

```

Figure 94. CSV Exported Sensor Data report (Data Publisher Utility): IMSDSSTAT data stream example

## Sample report: DEDBSTAT data stream

The following figure shows an example of the CSV Exported Sensor Data report with a header record for the DEDBSTAT data stream:

```

RECORD_TIMESTAMP,SYSPLEX,ITKBSRVR,RECON_ID,DBD,AREA,FLAG_UOW_DATA,FLAG_UOW_GROUP_DATA,PCT_BYTES_FS_RAA,PCT_BYTES_FS_DOVF,PCT_BYTES_FS_IOVF,....
2024-06-24T23:16:55.187+00:00,SYSPLEX1,FP0SRV01,RECON1,DEDB0010,DEDBAR01,N,N,46,38,92,3.08,4,18,1051,1,47,5,1,14,28,1749668,111600,....
2024-06-17T23:15:49.715+00:00,SYSPLEX1,FP0SRV01,RECON1,DEDB0010,DEDBAR01,N,N,45,30,83,100,93,3.38,4,30,1786,1,63,6,1,25,31,1850668,111700,....
2024-06-10T23:20:23.542+00:00,SYSPLEX1,FP0SRV01,RECON1,DEDB0010,DEDBAR01,N,N,44,26,78,100,93,3.5,4,37,2214,1,74,7,1,33,33,1901515,111800,....
2024-06-03T23:33:51.072+00:00,SYSPLEX1,FP0SRV01,RECON1,DEDB0010,DEDBAR01,N,N,48,48,96,100,92,2,72,4,9,547,1,4,5,1,7,24,1633486,111900,1344,....
2024-05-27T23:10:47.762+00:00,SYSPLEX1,FP0SRV01,RECON1,DEDB0010,DEDBAR01,N,N,46,34,87,100,93,3.23,4,24,1418,1,58,7,1,19,29,1800723,11200,....

```

Figure 95. CSV Exported Sensor Data report (Data Publisher Utility): DEDBSTAT data stream example

## Db2 DDL Statement report

The Db2 DDL Statement report contains a CREATE TABLE DDL statement for each CSV data set.

Db2 DDL Statement reports are generated in the data sets specified by the FFDBDDL, FFDSDDL, and DEDBDDL DD statements or by the DD names in the DDN\_MAP keyword.

For a list of data elements exported for each data stream, see [“Data Publisher Utility data streams” on page 142](#).

## Sample report: IMSDBSTAT data stream

The following figure shows an example of the Db2 DDL Statement report for the IMSDBSTAT data stream:

```

SET CURRENT SQLID='userid';
CREATE TABLE SCHEMA1.TABLE1
  (RECORD_TIMESTAMP      TIMESTAMP (3) WITH TIME ZONE NOT NULL,
   SYSPLEX               CHAR(8) NOT NULL,
   ITKBSRVR              CHAR(8) NOT NULL,
   RECON_ID               CHAR(8) NOT NULL,
   DBD                   CHAR(8) NOT NULL,
   PARTITION              CHAR(7) NOT NULL WITH DEFAULT,
   DATABASE_TYPE          CHAR(20) NOT NULL,
   ACCESS_METHOD           CHAR(4) NOT NULL WITH DEFAULT,
   FLAG_SENSOR_HOME        CHAR(1),
   FLAG_SENSOR_DBINFO      CHAR(1),
   FLAG_SEGMENT_STAT       CHAR(1),
   NUM_ROOT                BIGINT,
   NUM_SYNONYM              BIGINT,
   PCT_NUM_SYNONYM          SMALLINT,
   NUM_ROOT_NOHOME          BIGINT,
   PCT_NUM_ROOT_NOHOME      SMALLINT,
   NUM_ROOT_OVFL             INTEGER,
   PCT_NUM_ROOT_OVFL          SMALLINT,
   AVG_LEN_SYNONYM_CHAIN    DECIMAL(12,2),
   BYTES_SEG_RAA            BIGINT,
   PCT_BYTES_OVFL            SMALLINT,
   NUM_RAP                  BIGINT,
   NUM_UNUSED_RAP            BIGINT,
   PCT_NUM_UNUSED_RAP        SMALLINT,
   AVG_DBREC_LENGTH          DECIMAL(16,2),
   ESTIMATED_DBREC_IO        DECIMAL(11,2),
   ESTIMATED_ROOT_IO         DECIMAL(11,2),
   NUM_IPS                  BIGINT,
   NUM_IPS_OVFL              BIGINT,
   PCT_IPS_OVFL              SMALLINT,
   MISSING_DATA_REASONS     CHAR(8),
   CONSTRAINT constraint-name
  );

```

```

PRIMARY KEY (RECORD_TIMESTAMP,
              SYSPLEX,
              ITKBSRVR,
              RECON_ID,
              DBD,
              PARTITION))
IN DATABASE database-name
PARTITION BY SIZE
AUDIT NONE
DATA CAPTURE CHANGES
CCSID      EBCDIC
NOT VOLATILE
APPEND NO ;

```

## Sample report: IMSDSSTAT data stream

The following figure shows an example of the Db2 DDL Statement report for the IMSDSSTAT data stream:

```

SET CURRENT SQLID='userid';
CREATE TABLE SCHEMA2.TABLE2
  (RECORD_TIMESTAMP      TIMESTAMP (3) WITH TIME ZONE NOT NULL,
   SYSPLEX                CHAR(8) NOT NULL,
   ITKBSRVR               CHAR(8) NOT NULL,
   RECON_ID                CHAR(8) NOT NULL,
   DBD                     CHAR(8) NOT NULL,
   PARTITION               CHAR(7) NOT NULL WITH DEFAULT,
   DDNAME                  CHAR(8) NOT NULL,
   DATASET_ID              CHAR(4) NOT NULL,
   DS_NAME                 CHAR(44) NOT NULL WITH DEFAULT,
   DS_ORG                  CHAR(4) NOT NULL WITH DEFAULT,
   FLAG_SMS                CHAR(1),
   FLAG_EXT_CONST_REMOV   CHAR(1),
   FLAG_SPACE_TYPE         CHAR(1),
   MAX_EXT_DS              INTEGER,
   MAX_EXT_VOL             INTEGER,
   AVAIL_EXT_LESS_100      CHAR(1),
   AVAIL_EXT_LIMIT         CHAR(16),
   NUM_AVAIL_EXT           INTEGER,
   NUM_EXT                 INTEGER,
   RBA_HIGH_USED            BIGINT,
   RBA_HIGH_ALLOC           BIGINT,
   NUM_VOL                 INTEGER,
   NUM_UNUSED_VOL           INTEGER,
   NUM_UNUSED_VOL_SER      INTEGER,
   NUM_UNUSED_VOL_CAND     INTEGER,
   NUM_PRI_SPACE            INTEGER,
   NUM_SEC_SPACE            INTEGER,
   UNUSED_BYTES             BIGINT,
   PCT_UNUSED_BYTES         SMALLINT,
   MAX_DS_SIZE              SMALLINT,
   PCT_OF_MAX_DS_SIZE      SMALLINT,
   NUM_DBDS_BLOCKS          INTEGER,
   NUM_ALLOCATED_BLOCKS    INTEGER,
   BLOCK_SIZE               INTEGER,
   LRECL_SIZE               INTEGER,
   NUM_CI_SPLIT              BIGINT,
   PCT_NUM_CI_SPLIT         SMALLINT,
   NUM_CA_SPLIT              BIGINT,
   PCT_NUM_CA_SPLIT         SMALLINT,
   NUM_SEG                  BIGINT,
   NUM_VLSEG                BIGINT,
   NUM_VLSEG_SPLIT           BIGINT,
   PCT_NUM_VLSEG_SPLIT      SMALLINT,
   NUM_DELSEG               BIGINT,
   BYTES_SEG                BIGINT,
   PCT_BYTES_SEG             SMALLINT,
   PCT_NUM_DELSEG            SMALLINT,
   NUM_PTR                  BIGINT,
   NUM_PTR_DIFF_BLK          BIGINT,
   PCT_NUM_PTR_DIFF_BLK     SMALLINT,
   NUM_FSE                  BIGINT,
   NUM_FSE_MIN               BIGINT,
   NUM_FSE_MAX               BIGINT,
   AVG_NUM_FSE               DECIMAL(12,2),
   AVG_NUM_NOREUSE_FSE      DECIMAL(12,2),
   PCT_NUM_NOREUSE_FSE      SMALLINT,
   BYTES_FREE_SPACE          BIGINT,
   PCT_BYTES_FREE_SPACE     SMALLINT,
   BYTES_UNIDENTIFIED       BIGINT,

```

```

NUM_UNIDENTIFIED      BIGINT,
AVG_NUM_UNIDENTIFIED DECIMAL(12,2),
PCT_NUM_FRAGD_FSE   SMALLINT,
AVG_NUM_FRAGD_FSE   DECIMAL(11,2),
MISSING_DATA_REASON CHAR(8),
CONSTRAINT constraint-name
PRIMARY KEY (RECORD_TIMESTAMP,
              SYSPLEX,
              ITKBSRVR,
              RECON_ID,
              DBD,
              PARTITION,
              DDNAME))
IN DATABASE database-name
PARTITION BY SIZE
AUDIT NONE
DATA CAPTURE CHANGES
CCSID      EBCDIC
NOT VOLATILE
APPEND NO ;

```

## Sample report: DEDBSTAT data stream

The following figure shows an example of the Db2 DDL Statement report for the DEDBSTAT data stream:

```

SET CURRENT SQLID='userid';
CREATE TABLE SCHEMA3.TABLE3
  (RECORD_TIMESTAMP      TIMESTAMP (3) WITH TIME ZONE NOT NULL,
   SYSPLEX              CHAR(8) NOT NULL,
   ITKBSRVR             CHAR(8) NOT NULL,
   RECON_ID              CHAR(8) NOT NULL,
   DBD                  CHAR(8) NOT NULL,
   AREA                 CHAR(8) NOT NULL,
   FLAG_UOW_DATA        CHAR(1),
   FLAG_UOW_GROUP_DATA  CHAR(1),
   PCT_BYTES_FS_RAA    SMALLINT,
   PCT_BYTES_FS_DOVF   SMALLINT,
   PCT_BYTES_FS_IOVF   SMALLINT,
   PCT_BYTES_FS_SDEP   SMALLINT,
   PCT_NUM_UOW_USE_DOVF SMALLINT,
   AVG_NUM_DOVFCI_BY_UOW DECIMAL(8,2),
   MAX_NUM_DOVFCI_BY_UOW SMALLINT,
   PCT_NUM_UOW_USE_IOVF SMALLINT,
   NUM_UOW_USE_IOVF    SMALLINT,
   AVG_NUM_IOVFCI_BY_UOW DECIMAL(10,2),
   MAX_NUM_IOVFCI_BY_UOW INTEGER,
   MIN_NUM_IOVFCI_BY_UOW INTEGER,
   PCT_NUM_IOVFCI_USED  SMALLINT,
   PCT_NUM_RAPCI_OVFL   SMALLINT,
   NUM_SEG               BIGINT,
   NUM_ROOT              BIGINT,
   AVG_DBREC_LENGTH     DECIMAL(16,2),
   MAX_DBREC_LENGTH     BIGINT,
   MIN_DBREC_LENGTH     BIGINT,
   PCT_NUM_DBREC_IOVF   SMALLINT,
   AVG_LEN_SYNONYM_CHAIN DECIMAL(12,2),
   MAX_LEN_SYNONYM_CHAIN BIGINT,
   AVG_DBREC_IO          DECIMAL(10,2),
   ESTIMATED_DBREC_IO   DECIMAL(11,2),
   MAX_DBREC_IO          INTEGER,
   AVG_ROOT_IO           DECIMAL(10,2),
   ESTIMATED_ROOT_IO    DECIMAL(11,2),
   MAX_ROOT_IO           INTEGER,
   AREADEF_CISIZE        SMALLINT,
   AREADEF_UOW1           SMALLINT,
   AREADEF_UOW2           SMALLINT,
   AREADEF_ROOT1          SMALLINT,
   AREADEF_ROOT2          SMALLINT,
   AREADEF_NUM_SDEP_CIS  INTEGER,
   NUM_UOW_GROUPS         SMALLINT,
   SENSOR_DATA_GROUP_ID  CHAR(4),
   NUM_UOW_RFS_COND       SMALLINT,
   PCT_NUM_UOW_RFS_COND   SMALLINT,
   THRESHOLD_RBASEFS     SMALLINT,
   THRESHOLD_RDOVFFS     SMALLINT,
   MISSING_DATA_REASON   CHAR(8),
   CONSTRAINT constraint-name
   PRIMARY KEY (RECORD_TIMESTAMP,
                 SYSPLEX,

```

```

        ITKBSRVR,
        RECON_ID,
        DBD,
        AREA))
IN DATABASE database-name
PARTITION BY SIZE
AUDIT NONE
DATA CAPTURE CHANGES
CCSID      EBCDIC
NOT VOLATILE
APPEND NO  ;

```

## Db2 LOAD Control Statement report

The Db2 LOAD Control Statement report contains a Db2 LOAD utility input control statements for each CSV data set.

Db2 LOAD Control Statement reports are generated in the data sets specified by the FFDBLOAD, FFDSLOAD, and DEDBLOAD DD statements or by the DD names in the DDN\_MAP keyword.

For a list of data elements exported for each data stream, see [“Data Publisher Utility data streams” on page 142](#).

### Sample report: IMSDBSTAT data stream

The following figure shows an example of the Db2 LOAD Control Statement report for the IMSDBSTAT data stream:

```

LOAD DATA INDDN SYSREC LOG NO RESUME YES
EBCDIC CCSID(00037,00000,00000)
FORMAT DELIMITED COLDEL X'6B' CHARDEL X'7F' DECPT X'4B'
INTO TABLE "SCHEMA1"."TABLE1"
NUMRECS      64
( "RECORD_TIMESTAMP"
  POSITION(*)      TIMESTAMP EXTERNAL(23)
, "SYSPLEX"
  POSITION(*)      CHAR(00008)
, "ITKBSRVR"
  POSITION(*)      CHAR(00008)
, "RECON_ID"
  POSITION(*)      CHAR(00008)
, "DBD"
  POSITION(*)      CHAR(00008)
, "PARTITION"
  POSITION(*)      CHAR(00007)
, "DATABASE_TYPE"
  POSITION(*)      CHAR(00020)
, "ACCESS_METHOD"
  POSITION(*)      CHAR(00004)
, "FLAG_SENSOR_HOME"
  POSITION(*)      CHAR(00001)
, "FLAG_SENSOR_DBINFO"
  POSITION(*)      CHAR(00001)
, "FLAG_SEGMENT_STAT"
  POSITION(*)      CHAR(00001)
, "NUM_ROOT"
  POSITION(*)      BIGINT
, "NUM_SYNONYM"
  POSITION(*)      BIGINT
, "PCT_NUM_SYNONYM"
  POSITION(*)      SMALLINT
, "NUM_ROOT_NOHOME"
  POSITION(*)      BIGINT
, "PCT_NUM_ROOT_NOHOME"
  POSITION(*)      SMALLINT
, "NUM_ROOT_OVFL"
  POSITION(*)      INTEGER
, "PCT_NUM_ROOT_OVFL"
  POSITION(*)      SMALLINT
, "AVG_LEN_SYNONYM_CHAIN"
  POSITION(*)      DECIMAL EXTERNAL(12,2)
, "BYTES_SEG_RAA"
  POSITION(*)      BIGINT
, "PCT_BYTES_OVFL"
  POSITION(*)      SMALLINT
, "NUM_RAP"

```

```

        POSITION(*)          BIGINT
        , "NUM_UNUSED_RAP"  BIGINT
        POSITION(*)          SMALLINT
        , "AVG_DBREC_LENGTH" DECIMAL EXTERNAL(16,2)
        POSITION(*)          DECIMAL EXTERNAL(11,2)
        , "ESTIMATED_DBREC_IO" DECIMAL EXTERNAL(11,2)
        POSITION(*)          DECIMAL EXTERNAL(11,2)
        , "ESTIMATED_ROOT_IO" DECIMAL EXTERNAL(11,2)
        POSITION(*)          BIGINT
        , "NUM_IPS"           BIGINT
        POSITION(*)          SMALLINT
        , "MISSING_DATA_REASONS" CHAR(00008)
        POSITION(*)          )
)

```

## Sample report: IMSDSSTAT data stream

The following figure shows an example of the Db2 LOAD Control Statement report for the IMSDSSTAT data stream:

```

LOAD DATA INDDN SYSREC LOG NO RESUME YES
EBCDIC CCSID(00037,00000,00000)
FORMAT DELIMITED COLDEL X'6B' CHARDEL X'7F' DECPT X'4B'
INTO TABLE "SCHEMA2"."TABLE2"
NUMRECS          380
( "RECORD_TIMESTAMP"
  POSITION(*)          TIMESTAMP EXTERNAL(23)
  , "SYSPLEX"
  POSITION(*)          CHAR(00008)
  , "ITKBSRVR"
  POSITION(*)          CHAR(00008)
  , "RECON_ID"
  POSITION(*)          CHAR(00008)
  , "DBD"
  POSITION(*)          CHAR(00008)
  , "PARTITION"
  POSITION(*)          CHAR(00007)
  , "DDNAME"
  POSITION(*)          CHAR(00008)
  , "DATASET_ID"
  POSITION(*)          CHAR(00004)
  , "DS_NAME"
  POSITION(*)          CHAR(00044)
  , "DS_ORG"
  POSITION(*)          CHAR(00004)
  , "FLAG_SMS"
  POSITION(*)          CHAR(00001)
  , "FLAG_EXT_CONST_REMOV"
  POSITION(*)          CHAR(00001)
  , "FLAG_SPACE_TYPE"
  POSITION(*)          CHAR(00001)
  , "MAX_EXT_DS"
  POSITION(*)          INTEGER
  , "MAX_EXT_VOL"
  POSITION(*)          INTEGER
  , "AVAIL_EXT_LESS_100"
  POSITION(*)          CHAR(00001)
  , "AVAIL_EXT_LIMIT"
  POSITION(*)          CHAR(00016)
  , "NUM_AVAIL_EXT"
  POSITION(*)          INTEGER
  , "NUM_EXT"
  POSITION(*)          INTEGER
  , "RBA_HIGH_USED"
  POSITION(*)          BIGINT
  , "RBA_HIGH_ALLOC"
  POSITION(*)          BIGINT
  , "NUM_VOL"
  POSITION(*)          INTEGER
  , "NUM_UNUSED_VOL"
  POSITION(*)          INTEGER
  , "NUM_UNUSED_VOL_SER"
)

```

POSITION(*)	INTEGER
, "NUM_UNUSED_VOL_CAND"	
POSITION(*)	INTEGER
, "NUM_PRI_SPACE"	
POSITION(*)	INTEGER
, "NUM_SEC_SPACE"	
POSITION(*)	INTEGER
, "UNUSED_BYTES"	
POSITION(*)	BIGINT
, "PCT_UNUSED_BYTES"	
POSITION(*)	SMALLINT
, "MAX_DS_SIZE"	
POSITION(*)	SMALLINT
, "PCT_OF_MAX_DS_SIZE"	
POSITION(*)	SMALLINT
, "NUM_DBDS_BLOCKS"	
POSITION(*)	INTEGER
, "NUM_ALLOCATED_BLOCKS"	
POSITION(*)	INTEGER
, "BLOCK_SIZE"	
POSITION(*)	INTEGER
, "LRECL_SIZE"	
POSITION(*)	INTEGER
, "NUM_CI_SPLIT"	
POSITION(*)	BIGINT
, "PCT_NUM_CI_SPLIT"	
POSITION(*)	SMALLINT
, "NUM_CA_SPLIT"	
POSITION(*)	BIGINT
, "PCT_NUM_CA_SPLIT"	
POSITION(*)	SMALLINT
, "NUM_SEG"	
POSITION(*)	BIGINT
, "NUM_VLSEG"	
POSITION(*)	BIGINT
, "NUM_VLSEG_SPLIT"	
POSITION(*)	BIGINT
, "PCT_NUM_VLSEG_SPLIT"	
POSITION(*)	SMALLINT
, "NUM_DELSEG"	
POSITION(*)	BIGINT
, "BYTES_SEG"	
POSITION(*)	BIGINT
, "PCT_BYTES_SEG"	
POSITION(*)	SMALLINT
, "PCT_NUM_DELSEG"	
POSITION(*)	SMALLINT
, "NUM_PTR"	
POSITION(*)	BIGINT
, "NUM_PTR_DIFF_BLK"	
POSITION(*)	BIGINT
, "PCT_NUM_PTR_DIFF_BLK"	
POSITION(*)	SMALLINT
, "NUM_FSE"	
POSITION(*)	BIGINT
, "NUM_FSE_MIN"	
POSITION(*)	BIGINT
, "NUM_FSE_MAX"	
POSITION(*)	BIGINT
, "AVG_NUM_FSE"	
POSITION(*)	DECIMAL EXTERNAL(12,2)
, "AVG_NUM_NOREUSE_FSE"	
POSITION(*)	DECIMAL EXTERNAL(12,2)
, "PCT_NUM_NOREUSE_FSE"	
POSITION(*)	SMALLINT
, "BYTES_FREE_SPACE"	
POSITION(*)	BIGINT
, "PCT_BYTES_FREE_SPACE"	
POSITION(*)	SMALLINT
, "BYTES_UNIDENTIFIED"	
POSITION(*)	BIGINT
, "NUM_UNIDENTIFIED"	
POSITION(*)	BIGINT
, "AVG_NUM_UNIDENTIFIED"	
POSITION(*)	DECIMAL EXTERNAL(12,2)
, "PCT_NUM_FRAGD_FSE"	
POSITION(*)	SMALLINT
, "AVG_NUM_FRAGD_FSE"	
POSITION(*)	DECIMAL EXTERNAL(11,2)
, "MISSING_DATA_REASON"	

```
    POSITION(*)          CHAR(00008)
  )
```

## Sample report: DEDBSTAT data stream

The following figure shows an example of the Db2 LOAD Control Statement report for the DEDBSTAT data stream:

```
LOAD DATA INDDN SYSREC LOG NO RESUME YES
EBCDIC CCSID(00037,00000,00000)
FORMAT DELIMITED COLDEL X'6B' CHARDEL X'7F' DECPT X'4B'
INTO TABLE "SCHEMA3"."TABLE3"
NUMRECS          300
( "RECORD_TIMESTAMP"
  POSITION(*)          TIMESTAMP EXTERNAL(23)
, "SYSPLEX"
  POSITION(*)          CHAR(00008)
, "ITKBSRVR"
  POSITION(*)          CHAR(00008)
, "RECON_ID"
  POSITION(*)          CHAR(00008)
, "DBD"
  POSITION(*)          CHAR(00008)
, "AREA"
  POSITION(*)          CHAR(00008)
, "FLAG_UOW_DATA"
  POSITION(*)          CHAR(00001)
, "FLAG_UOW_GROUP_DATA"
  POSITION(*)          CHAR(00001)
, "PCT_BYTES_FS_RAA"
  POSITION(*)          SMALLINT
, "PCT_BYTES_FS_DOVF"
  POSITION(*)          SMALLINT
, "PCT_BYTES_FS_IOVF"
  POSITION(*)          SMALLINT
, "PCT_BYTES_FS_SDEP"
  POSITION(*)          SMALLINT
, "PCT_NUM_UOW_USE_DOVF"
  POSITION(*)          SMALLINT
, "AVG_NUM_DOVFCI_BY_UOW"
  POSITION(*)          DECIMAL EXTERNAL(8,2)
, "MAX_NUM_DOVFCI_BY_UOW"
  POSITION(*)          SMALLINT
, "PCT_NUM_UOW_USE_IOVF"
  POSITION(*)          SMALLINT
, "NUM_UOW_USE_IOVF"
  POSITION(*)          SMALLINT
, "AVG_NUM_IOVFCI_BY_UOW"
  POSITION(*)          DECIMAL EXTERNAL(10,2)
, "MAX_NUM_IOVFCI_BY_UOW"
  POSITION(*)          INTEGER
, "MIN_NUM_IOVFCI_BY_UOW"
  POSITION(*)          INTEGER
, "PCT_NUM_IOVFCI_USED"
  POSITION(*)          SMALLINT
, "PCT_NUM_RAPCI_OVFL"
  POSITION(*)          SMALLINT
, "NUM_SEG"
  POSITION(*)          BIGINT
, "NUM_ROOT"
  POSITION(*)          BIGINT
, "AVG_DBREC_LENGTH"
  POSITION(*)          DECIMAL EXTERNAL(16,2)
, "MAX_DBREC_LENGTH"
  POSITION(*)          BIGINT
, "MIN_DBREC_LENGTH"
  POSITION(*)          BIGINT
, "PCT_NUM_DBREC_IOVF"
  POSITION(*)          SMALLINT
, "AVG_LEN_SYNONYM_CHAIN"
  POSITION(*)          DECIMAL EXTERNAL(12,2)
, "MAX_LEN_SYNONYM_CHAIN"
  POSITION(*)          BIGINT
, "AVG_DBREC_IO"
  POSITION(*)          DECIMAL EXTERNAL(10,2)
, "ESTIMATED_DBREC_IO"
  POSITION(*)          DECIMAL EXTERNAL(11,2)
, "MAX_DBREC_IO"
```

```

        POSITION(*)          INTEGER
        , "AVG_ROOT_IO"
        POSITION(*)          DECIMAL EXTERNAL(10,2)
        , "ESTIMATED_ROOT_IO"
        POSITION(*)          DECIMAL EXTERNAL(11,2)
        , "MAX_ROOT_IO"
        POSITION(*)          INTEGER
        , "AREADEF_CISIZE"
        POSITION(*)          SMALLINT
        , "AREADEF_UOW1"
        POSITION(*)          SMALLINT
        , "AREADEF_UOW2"
        POSITION(*)          SMALLINT
        , "AREADEF_ROOT1"
        POSITION(*)          SMALLINT
        , "AREADEF_ROOT2"
        POSITION(*)          SMALLINT
        , "AREADEF_NUM_SDEP_CIS"
        POSITION(*)          INTEGER
        , "NUM_UOW_GROUPS"
        POSITION(*)          SMALLINT
        , "SENSOR_DATA_GROUP_ID"
        POSITION(*)          CHAR(00004)
        , "NUM_UOW_RFS_COND"
        POSITION(*)          SMALLINT
        , "PCT_NUM_UOW_RFS_COND"
        POSITION(*)          SMALLINT
        , "THRESHOLD_RBASEFS"
        POSITION(*)          SMALLINT
        , "THRESHOLD_RDOVFFS"
        POSITION(*)          SMALLINT
        , "MISSING_DATA_REASONS"
        POSITION(*)          CHAR(00008)
    )
)

```

## JCL examples for the Data Publisher Utility

Use these JCL examples to code JCL statements for the Data Publisher Utility.

### Topics:

- [“Example 1: Exporting all sensor data to CSV data sets” on page 170](#)
- [“Example 2: Generating Db2 DDL to create Db2 tables for loading CSV data” on page 170](#)
- [“Example 3: Generating Db2 LOAD control statements to load CSV data” on page 171](#)
- [“Example 4: Exporting sensor data within the specified timestamp range” on page 172](#)
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## Example 1: Exporting all sensor data to CSV data sets

The following figure shows a JCL example for exporting all sensor data to CSV data sets.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM=' FUNC=PUBLISH_SENSOR'  
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDSCSV  DD DSN=ITB.CSV.IMSDS,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//DEDBCSV  DD DSN=ITB.CSV.DEDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//HKTUJRN1 DD SYSOUT=*<br/> /*  
//HKTSYSIN DD *  
     OUTPUT_TYPE(CSV)  
     ITKBSRVR(FPQSRV01)  
/*
```

Figure 96. Exporting all sensor data to CSV data sets

In this example:

- All sensor data for the three data streams are exported to CSV data sets.
- Because the CSV keyword is omitted, the default value, which is CSV(IMSDBSTAT IMSDSSTAT DEDBSTAT), is applied. One CSV data set is generated for each data stream.
- The following DD statements specify the output CSV data sets for the three data streams:
  - FFDBCSV DD: Specifies the output CSV data set for the IMSDBSTAT data stream.
  - FFDSCSV DD: Specifies the output CSV data set for the IMSDSSTAT data stream.
  - DEDBCSV DD: Specifies the output CSV data set for the DEDBSTAT data stream.

These DD statement names can be changed to your preferred names by using the DDN\_MAP keyword.

## Example 2: Generating Db2 DDL to create Db2 tables for loading CSV data

The following figure shows a JCL example for generating CREATE TABLE DDL statements to create Db2 tables for loading CSV data.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM=' FUNC=PUBLISH_SENSOR'  
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBDDL  DD DSN=ITB.DDL.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//FFDSDDL  DD DSN=ITB.DDL.IMSDS,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//DEDBDDL  DD DSN=ITB.DDL.DEDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//HKTUJRN1 DD SYSOUT=*<br/> /*  
//HKTSYSIN DD *  
     OUTPUT_TYPE(DB2DDL)  
     DB2TABLE_NAME(IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))  
                   IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))  
                   DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3))  
     )  
/*
```

Figure 97. Generating DDL to create Db2 tables for loading CSV data

In this example:

- A DDL statement for creating a Db2 table (CREATE TABLE) is generated for each data stream.
- Because the DB2DDL keyword is omitted, the default value, which is DB2DDL(IMSDBSTAT IMSDSSTAT DEDBSTAT), is applied. One DDL statement is generated for each of the three data streams.

- The following DD statements specify the output data sets for DDL statements for the three data streams:
    - FFDBDDL DD: Specifies the output data set for the DDL statement for the IMSDBSTAT data stream.
    - FFDSDDL DD: Specifies the output data set for the DDL statement for the IMSDSSTAT data stream.
    - DEDBDDL DD: Specifies the output data set for the DDL statement for the DEDBSTAT data stream.
- These DD statement names can be changed to your preferred names by using the DDN\_MAP keyword.

## Example 3: Generating Db2 LOAD control statements to load CSV data

The following figure shows a JCL example for generating Db2 LOAD control statements to load CSV data.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM='FUNC=PUBLISH_SENSOR'
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD
//FFDBLOAD DD DSN=ITB.LOAD.IMSDB,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
//FFDSLOAD  DD DSN=ITB.LOAD.IMSDS,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
//DEDBLOAD  DD DSN=ITB.LOAD.DEDB,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
//HKTUJRNLL DD SYSOUT=*
//HKTSYSIN  DD *
      OUTPUT_TYPE(DB2LOAD)
      DB2TABLE_NAME(IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))
                     IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))
                     DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3)))
      )
/*

```

Figure 98. Generating Db2 LOAD control statements to load CSV data

In this example:

- Db2 LOAD control statements, which are used to load exported CSV data to Db2 tables, are generated.
- Because the DB2LOAD keyword is omitted, the default value, which is DB2LOAD(IMSDBSTAT IMSDSSTAT DEDBSTAT), is applied. One Db2 LOAD control statement is generated for each data stream.
- The following DD statements specify the output data sets for Db2 LOAD control statements for the three data streams:
  - FFDBLOAD DD: Specifies the output data set for the Db2 LOAD control statement for the IMSDBSTAT data stream.
  - FFDSLOAD DD: Specifies the output data set for the Db2 LOAD control statement for the IMSDSSTAT data stream.
  - DEDBLOAD DD: Specifies the output data set for the Db2 LOAD control statement for the DEDBSTAT data stream.

These DD statement names can be changed to your preferred names by using the DDN\_MAP keyword.

## Example 4: Exporting sensor data within the specified timestamp range

The following figure shows a JCL example for exporting sensor data that match the specific timestamp criteria to CSV data sets.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM=' FUNC=PUBLISH_SENSOR'  
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDSCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//DEDBCSV  DD DSN=ITB.CSV.DEDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//HKTUJRN1 DD SYSOUT=*<br/> /*  
//HKTYSIN DD *  
  OUTPUT_TYPE(CSV)  
  CSV_HEADER(YES)  
  ITKBSRVR(FPQSRV01)  
  TIMESTAMP(  
    FROM(2024-07-01.00:00:00)  
    BEFORE(2025-01-01.00:00:00)  
    TIMEZONE(UTC)  
)  
/*
```

Figure 99. Exporting sensor data within the specified timestamp range

In this example:

- The FROM and BEFORE parameters of the TIMESTAMP keyword specify that sensor data with timestamps after 2024-07-01.00:00:00 and before 2025-01-01.00:00:00 are exported to CSV data sets.
- TIMEZONE(UTC) specifies that the timestamps specified in the FROM and BEFORE parameters are recognized as UTC timestamps.
- CSV\_HEADER(YES) specifies to add column headers to each CSV data set.

## Example 5: Exporting sensor data with timestamps after the specified timestamp

The following figure shows a JCL example for exporting sensor data with timestamps later than the specified starting time.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM=' FUNC=PUBLISH_SENSOR'  
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDSCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//DEDBCSV  DD DSN=ITB.CSV.DEDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//HKTUJRN1 DD SYSOUT=*<br/> /*  
//HKTYSIN DD *  
  OUTPUT_TYPE(CSV)  
  ITKBSRVR(FPQSRV01)  
  TIMESTAMP(  
    FROM(2024-07-01.00:00:00)  
    TIMEZONE(LOCAL)  
)  
/*
```

Figure 100. Exporting sensor data with timestamps after the specified timestamp

In this example:

- Because the BEFORE parameter is not specified, all sensor data that have timestamps on and after 2024-07-01.00:00:00 are exported to CSV data sets.
- TIMEZONE(LOCAL) specifies that the timestamp specified in the FROM parameter is recognized as a local timestamp.

## Example 6: Exporting latest sensor data

The following figure shows a JCL example for exporting only sensor data with the latest timestamps to CSV data sets.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM='FUNC=PUBLISH_SENSOR'
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD
//FFDBCSV  DD DSN=ITB.CSV.IMSDB,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)
//FFDSCSV  DD DSN=ITB.CSV.IMSDS,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)
//DEDBCSV  DD DSN=ITB.CSV.DEDB,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)
//HKTUJRN1 DD SYSOUT=*
//HKTSYSIN DD *
      OUTPUT_TYPE(CSV)
      ITKBSRVR(FPQSRV01)
      TIMESTAMP(LATEST)
/*
```

Figure 101. Exporting latest sensor data

In this example:

- TIMESTAMP(LATEST) specifies that only sensor data with the latest timestamp are exported to the CSV data sets.
- The latest timestamp varies depending on when the sensor data were collected for the full-function database, HALDB partition, and DEDB area.

## Example 7: Exporting DEDB sensor data and generating the Db2 LOAD control statement

The following figure shows a JCL example for exporting DEDB sensor data to a CSV data set and generating its corresponding Db2 LOAD control statement.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM='FUNC=PUBLISH_SENSOR'
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD
//DEDBCSV  DD DSN=ITB.CSV.DEDB,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(50,10)),
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)
//DEDBLOAD DD DSN=ITB.LOAD.DEDB,
//           DISP=(NEW,CATLG),UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
//HKTUJRN1 DD SYSOUT=*
//HKTSYSIN DD *
      OUTPUT_TYPE(CSV DB2LOAD)
      ITKBSRVR(FPQSRV01)
      CSV(DEDBSTAT)
      DB2LOAD(DEDBSTAT)
      DB2TABLE_NAME(DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3)))
/*
```

Figure 102. Exporting DEDB sensor data and generating the Db2 LOAD control statement

In this example:

- CSV(DEDBSTAT) specifies that only the sensor data collected from DEDB areas are exported to the CSV data set.
- DB2LOAD(DEDBSTAT) specifies to generate the corresponding Db2 LOAD control statement.

## Example 8: Exporting sensor data of a specific HALDB and generating Db2 LOAD control statements

The following figure shows a JCL example for exporting sensor data of a specific HALDB to CSV data sets and generating their corresponding Db2 LOAD control statements.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM=' FUNC=PUBLISH_SENSOR'  
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDSCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDBLOAD  DD DSN=ITB.LOAD.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//FFDSLOAD  DD DSN=ITB.LOAD.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//HKTUJRN1  DD SYSOUT=*  
//HKTSYSIN DD *  
          OUTPUT_TYPE(CSV DB2LOAD)  
          ITKBSRVR(FPQSRV01 RECONID(RECON1))  
          DBDNAME(HALDB1)  
          CSV(IMSDBSTAT IMSDSSTAT)  
          CSV_HEADER(NO)  
          DB2LOAD(IMSDBSTAT IMSDSSTAT)  
          DB2TABLE_NAME(IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))  
                         IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))  
)  
/*
```

Figure 103. Exporting sensor data of a specific HALDB and generating the Db2 LOAD control statements

In this example:

- DBDNAME(HALDB1) and CSV(IMSDBSTAT IMSDSSTAT) specify that only the sensor data for databases whose DBD names are HALDB1 are exported to the CSV data sets.
- DB2LOAD(IMSDBSTAT IMSDSSTAT) specifies to generate the corresponding Db2 LOAD control statements.

## Example 9: Exporting sensor data and loading them to Db2 tables in a single job

The following figure shows a JCL example for exporting sensor data and loading them to Db2 tables in a single job.

```
//PGM1      EXEC PGM=HKTUTIL0,PARM=' FUNC=PUBLISH_SENSOR'  
//STEPLIB  DD DISP=SHR,DSN=ITB.SHKTLOAD  
//FFDBCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDSCSV  DD DSN=ITB.CSV.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//DEDBCSV   DD DSN=ITB.CSV.DEDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(50,10)),  
//           DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760)  
//FFDBLOAD  DD DSN=ITB.LOAD.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//FFDSLOAD  DD DSN=ITB.LOAD.IMSDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//DEDBLOAD  DD DSN=ITB.LOAD.DEDB,  
//           DISP=(NEW,CATLG),UNIT=SYSALDDA,SPACE=(CYL,(1,1)),  
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)  
//HKTUJRN1  DD SYSOUT=*  
//HKTSYSIN DD *  
          ITKBSRVR(FPQSRV01)  
          OUTPUT_TYPE(CSV DB2LOAD)
```

```

TIMESTAMP(
  FROM(2024-07-01.01:00:00)
  TIMEZONE(LOCAL)
)
DB2TABLE_NAME(
  IMSDBSTAT(SCHEMA(SCHEMA1) TABLE(TABLE1))
  IMSDSSTAT(SCHEMA(SCHEMA2) TABLE(TABLE2))
  DEDBSTAT(SCHEMA(SCHEMA3) TABLE(TABLE3))
)
/*
// IF (PGM1.RC LE 4) THEN
//FFDBLOAD EXEC PGM=DSNUTILB,PARM='DB2A,,'
//STEPLIB  DD DISP=SHR,DSN=DSN.SDSNLOAD
//SYSREC   DD DISP=SHR,DSN=ITB.CSV.IMSDB
//SYSIN    DD DISP=SHR,DSN=ITB.LOAD.IMSDB
//SYSUT1   DD DSN=ITB.DSNUTILB.SYSUT1.IMSDB,
//          DISP=(MOD,DELETE),UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SORTOUT  DD DSN=ITB.DSNUTILB.SORTOUT.IMSDB,
//          DISP=(MOD,DELETE),UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//ENDIF
//*
// IF (PGM1.RC LE 4) THEN
//FFDSLOAD EXEC PGM=DSNUTILB,PARM='DB2A,,'
//STEPLIB  DD DISP=SHR,DSN=DSN.SDSNLOAD
//SYSREC   DD DISP=SHR,DSN=ITB.CSV.IMSDS
//SYSIN    DD DISP=SHR,DSN=ITB.LOAD.IMSDS
//SYSUT1   DD DSN=ITB.DSNUTILB.SYSUT1.IMSDS,
//          DISP=(MOD,DELETE),UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SORTOUT  DD DSN=ITB.DSNUTILB.SORTOUT.IMSDS,
//          DISP=(MOD,DELETE),UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//ENDIF
//*
// IF (PGM1.RC LE 4) THEN
//DEDBLOAD EXEC PGM=DSNUTILB,PARM='DB2A,,'
//STEPLIB  DD DISP=SHR,DSN=DSN.SDSNLOAD
//SYSREC   DD DISP=SHR,DSN=ITB.CSV.DEDB
//SYSIN    DD DISP=SHR,DSN=ITB.LOAD.DEDB
//SYSUT1   DD DSN=ITB.DSNUTILB.SYSUT1.DEDB,
//          DISP=(MOD,DELETE),UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SORTOUT  DD DSN=ITB.DSNUTILB.SORTOUT.DEDB,
//          DISP=(MOD,DELETE),UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//ENDIF

```

This JCL example consists of four job steps; one Data Publisher Utility job step and three DSNUTILB Utility job steps. The Data Publisher Utility job step generates CSV data sets and Db2 LOAD control statements, and the DSNUTILB Utility job steps load CSV data into existing Db2 tables.

In the Data Publisher Utility job step (PGM1):

- FROM(2024-07-01.01:00:00) specifies to export sensor data with timestamps after 2024-07-01.01:00:00 to the CSV data sets.
- TIMEZONE(LOCAL) specifies that all timestamp values in the control statement and output CSV data sets are in the local timezone.
- Because the DB2LOAD\_REPLACE keyword is not specified, Db2 LOAD control statements are generated with the RESUME YES option, which means the CSV data are loaded to the table starting from the point where the previous load ended.

In the DSNUTILB Utility job steps, each job step (FFDBLOAD, FFDSLOAD, and DEDBLOAD) uses the CSV data set and Db2 LOAD control statement that were generated by the preceding job step (PGM1) and loads data into the existing Db2 table.



---

## Part 6. Troubleshooting

The topics in this section provide you with supplemental technical references that can help you diagnose, troubleshoot, and solve IMS Tools Knowledge Base problems.

**Topics:**

- [Chapter 16, “FPQ reason codes \(repository server\),” on page 179](#)
- [Chapter 17, “FPQ error messages \(repository server\),” on page 181](#)
- [Chapter 18, “HKT return and reason codes \(repositories\),” on page 213](#)
- [Chapter 19, “HKT error messages \(import and export utility\),” on page 215](#)
- [Chapter 20, “HKT error messages \(repositories\),” on page 231](#)
- [Chapter 21, “HKTD error messages \(discovery utility\),” on page 277](#)
- [Chapter 22, “HKTM and HKTX error messages \(internal data access APIs\),” on page 283](#)
- [Chapter 23, “BPE diagnostic trace,” on page 299](#)
- [Chapter 24, “IBM Service Repository abend codes,” on page 301](#)
- [Chapter 25, “Gathering diagnostic documentation,” on page 303](#)



# Chapter 16. FPQ reason codes (repository server)

This reference section provides detailed information about the reason codes issued by the IMS Tools Knowledge Base repository server.

Any reason code not included in the following table is an internal error the requires assistance from IBM Software Support.

Table 31. FPQ reason codes

Reason code	Explanation	User response
001	FPQ subsystem not found	Make sure the FPQ subsystem is initialized on the system that you are running on.  For more information, see the topic "Configuring SAF security" in <i>IMS Tools Base Configuration Guide</i> .
002	Server not found	The server specified in ITKBSRVR was not found. Start the server.
003	No FPQ server for server name	The server specified in ITKBSRVR was not found. Start the server.
004	FPQ server in shutdown	The server is not accepting connections. Wait until the server is available.
005	FPQ server has shutdown or failed	The server is not accepting connections. Wait until the server is available.
006	FPQ server is busy (retry valid)	The server allows a limited number of concurrent connections. Increase the value of XCF_THREADS and recycle the server.  It is possible that the server is getting insufficient processing resources to keep up with the workload. You might need to increase its service class or move it to a system with less workload.
008	Repository not found	The repository is not known to the server. This should not occur and might be a result of disconnecting repositories using the Administration menu of the ISPF user interface. Restore access to any required repositories.
009	Repository is unavailable	The repository is currently STOPPED. Start the repository.
00A	User has insufficient access	The security subsystem has denied access to a repository. See your system administrator for information.
014	Search field not defined	This code is an error that occurs when the repository gets out of sync with the definition requirements.  Restore the definitions to the repository by using the List Installed Products selection from the Administration menu. Select the product in error from the Report Subscriptions List and then use the Global Actions > SYNC function.

Table 31. FPQ reason codes (continued)

Reason code	Explanation	User response
015	Search field definition mismatch	<p>This code is an error that occurs when the repository gets out of synch with the definition requirements.</p> <p>Restore the definitions to the repository by using the List Installed Products selection from the Administration menu. Select the product in error from the Report Subscriptions List and then use the Global Actions &gt; SYNC function.</p>
017	No search-field-table match	<p>This code is an error that occurs when the repository gets out of synch with the definition requirements.</p> <p>Restore the definitions to the repository by using the List Installed Products selection from the Administration menu. Select the product in error from the Report Subscriptions List and then use the Global Actions &gt; SYNC function.</p>
102	API level not supported	The Knowledge Base release level of the program is incompatible with the server.
110	Stacking PC (CSSP) error	<p>This code is most likely caused by the FPQ subsystem not being properly initialized. Verify that the message FPQ3001I STACKING PC – FPQ SUBSYSTEM INSTALLED was issued.</p> <p>Other causes include insufficient private storage and internal errors regarding the use of IXCJOIN and IXCQUERY services.</p>
111	Server error	This code reflects an error processing this request in the server. Refer to the server JOBLOG for more information.
113	Max XCF server connections	<p>The number of concurrent sessions with the IMS Tools Base IMS Tools Knowledge Base server exceeds the allowed limit for your release of z/OS.</p> <p>It is possible that a higher release of z/OS allows a greater number of connections. Consider dividing the workload for the server into one or more additional servers.</p>

# Chapter 17. FPQ error messages (repository server)

This reference section provides detailed information about the error messages issued by the IMS Tools Knowledge Base repository server.

## Message format

IMS Tools Knowledge Base repository server messages adhere to the following format:

FPQnnnnnx

where:

**FPQ**

Indicates that the message was issued by IMS Tools Knowledge Base repository server

**nnnn**

Indicates the message identification number

**x**

Indicates the severity of the message:

**A**

Indicates that operator intervention is required before processing can continue.

**E**

Indicates that an error occurred, which might or might not require operator intervention.

**I**

Indicates that the message is informational only.

**W**

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

### Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

### System action:

The System action section explains what the system will do in response to the event that triggered this message.

### User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

FPQ0001E	<b>Server terminating due to an error condition.</b> <b>Feedback:</b> <i>feedback_word1 feedback_word2 feedback_word3</i>	<b>System action</b>  Processing ends unconditionally and the server terminates.	<b>User response</b>  Contact IBM Software Support.
	<b>Explanation</b>  An unsupported error condition has occurred. The server must terminate because its integrity is unknown.  In the message, <i>feedback_wordn</i> indicates IBM diagnostic and debugging information.	<b>FPQ0002E</b>  <b>The server experienced an error condition.</b> <b>Feedback:</b> <i>feedback_word1 feedback_word2 feedback_word3</i>	

## Explanation

An unsupported error has occurred in the server. The server can continue processing.

In the message, *feedback\_wordn* indicates IBM diagnostic and debugging information.

## System action

Processing ends for the affected thread but the server attempts to continue processing.

## User response

Contact IBM Software Support.

<b>FPQ0006E</b>	<b>Unable to load Catalog Search Interface routine IGGCSI00. Info=LOAD_abend_code / LOAD_reason_code</b>
-----------------	--

## Explanation

The server attempted to load the MVS Catalog Search Interface routine and this operation failed.

### ***LOAD\_abend\_code***

The abend code returned by the failing LOAD macro.

### ***LOAD\_reason\_code***

The reason code returned by the failing LOAD macro.

## System action

Processing ends unconditionally and the server terminates.

## User response

See the response and reason codes for the IGGCSI00 subroutine, which are listed in the topic "Managing Catalogs" in *z/OS DFSMS Managing Catalogs*.

<b>FPQ0007E</b>	<b>Repository data set not found. DSN=<i>data_set_name</i></b>
-----------------	--

## Explanation

Data set was not found. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Ensure that the data set name is correct and that the data set is cataloged on the z/OS system.

<b>FPQ0008E</b>	<b>Invalid repository data set name. DSN=<i>data_set_name</i></b>
-----------------	---

## Explanation

Repository data set name is not a valid VSAM KSDS name. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Define the data set.

<b>FPQ0009E</b>	<b>Repository data set is not a VSAM KSDS. DSN=<i>data_set_name</i></b>
-----------------	---

## Explanation

The repository data set is not a VSAM key-sequenced data set (KSDS). Service repository only supports VSAM KSDS. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Enter a valid VSAM KSDS name or correct the data set definition.

<b>FPQ0010E</b>	<b>Repository data set DYNALLOC error RC=DYNALLOC_return_code RSN=DYNALLOC_reason_code. DSN=<i>data_set_name</i></b>
-----------------	--

## Explanation

During repository open processing, an attempt to dynamically allocate (DYNALLOC) a repository data set failed.

### ***DYNALLOC\_reason\_code***

The reason code returned by the DYNALLOC (SVC99).

**DYNALLOC\_return\_code**

The return code returned by DYNALLOC (SVC99).

**data\_set\_name**

The repository data set name.

**System action**

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

**User response**

Information messages accompany this error; search for FPQ0011I. The return and reason codes are produced by DYNALLOC (SVC99). For a complete description of these return codes, see *z/OS MVS Programming: Authorized Assembler Services Guide*.

---

<b>FPQ0011I</b>	<b>Variable information from DYNALLOC</b>
-----------------	---

**Explanation**

Information messages accompanying error FPQ0010E. This information was returned by DYNALLOC when the request failed, and is reformatted as a service repository information message.

**System action**

See “[FPQ0010E](#)” on page 182.

**User response**

Use this message to help diagnose and correct the error.

---

<b>FPQ0012E</b>	<b>Insufficient access authority to repository data set.</b> <b>DSN=data_set_name</b>
-----------------	--

**Explanation**

An attempt to access a repository data set failed because the server has insufficient RACF® (or similar) privileges. The server identifies and raises this error only when trying to open the repository.

**System action**

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

**User response**

Change the data set access privileges.

**FPQ0013E**

**Reset failed as repository data set**

**is non-reusable.**

**DSN=data\_set\_name**

**Explanation**

An attempt to reset a repository data set during data set recovery failed because the data set does not have the REUSE attribute. The server identifies and raises this error only when trying to open the repository.

**System action**

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

**User response**

Use IDCAMS to delete or define the data set. Optionally, add the REUSE attribute. However this is not required because the DELETE and DEFINE keywords reset the data set for this operation.

**FPQ0014E**

**Repository data set call error**

**RC=VSAM\_return\_code**

**ACBERFLG=access\_ctrl\_blk\_err\_flag**

**DSN=data\_set\_name**

**Explanation**

An unsupported error condition occurred on a VSAM data set OPEN or CLOSE call.

**call**

The type of VSAM function that was attempted (OPEN or CLOSE).

**VSAM\_return\_code**

The VSAM return code.

**ACBERFLG**

The reason code in the ACBERFLG field of the ACB.

**data\_set\_name**

The repository data set name.

**System action**

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

**User response**

Refer to *z/OS DFSMS Macro Instructions for Data Sets* for additional information on this VSAM error.

**FPQ0015E**

**Invalid RID data set. Use KEYS (128 0).**

**Repository:repository\_name**

**Data set name:*data\_set\_name***

## Explanation

A data set used for the repository index data (RID) has invalid KEYS values specified. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Change the data set *data\_set\_name* option to have KEYS (128 0).

**FPQ0016E    Invalid RMD data set. Use KEYS (12 0).**  
**Repository:*repository\_name***  
**Data set name:*data\_set\_name***

## Explanation

A data set used for the repository member data (RMD) has invalid KEYS values specified. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Change the data set *data\_set\_name* option to have KEYS (12 0).

**FPQ0017E    Invalid RID data set. Use RECORDSIZE(256 256).**  
**Repository:*repository\_name***  
**Data set name:*data\_set\_name***

## Explanation

A data set used for the repository index data (RID) has invalid RECORDSIZE values specified. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Change the data set *data\_set\_name* option to have RECORDSIZE (256 256).

**Note:** RID records have a fixed length. Therefore, equal average and maximum RECORDSIZE are recommended.

**FPQ0018E    Invalid RMD data set. Use max RECORDSIZE >= 52 bytes.**  
**Repository:*repository\_name***  
**Data set name:*data\_set\_name***

## Explanation

A data set used for the repository member data (RMD) has a RECORDSIZE size defined that is too small. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Change the data set *data\_set\_name* option to have a RECORDSIZE greater than 52 bytes.

**Note:** 52 bytes is the minimum value, not the recommended value.

**FPQ0019E    Invalid repository data set SHAREOPTIONS. Use (2 3) or (1 3).**  
**Repository:*repository\_name***  
**Data set name:*data\_set\_name***

## Explanation

A data set used for the repository has invalid SHAREOPTIONS defined. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Redefine the repository data set *data\_set\_name* with SHAREOPTIONS (2 3) or (1 3).

**Record size:**

**PRI=primary\_type\_recordsize,**  
**SEC=secondary\_type\_recordsize**  
**Repository:repository\_name**

<b>FPQ0020E</b>	<b>Inconsistent repository data set SHAREOPTIONS.</b> <b>Share options: DATA (data_op1 data_op2), INDEX (idx_op1 Idx_op2)</b> <b>Repository=:repository_name</b> <b>Data set name: data_set_name</b>
-----------------	---

## Explanation

The share options for the repository data set INDEX and DATA are not the same are not the same making them invalid. Use options (2 3) for both or options (1 3) for both. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Change the data set options for the DATA and INDEX component to make them consistent.

<b>FPQ0021E</b>	<b>Invalid repository data set control record.</b> <b>Repository:repository_name</b> <b>Data set name: data_set_name</b>
-----------------	--

## Explanation

Data set validation identified a repository data set with a missing, or invalid control record. The server identifies and raises this error only when trying to open the repository.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, the Service Repository server will terminate.

## User response

The given repository data set is invalid. The likely causes are that an incorrect data set was specified, or that the data set needs a DELETE/DEFINE in order to empty it.

<b>FPQ0022E</b>	<b>Inconsistent type data set maximum RECORDSIZE.</b>
-----------------	---

## Explanation

The primary and secondary RID or RMD data sets do not have the same RECORDSIZE option. The primary RID must have the same RECORDSIZE option as the secondary RID. The primary RMD must have the same RECORDSIZE option as the secondary RMD. The server identifies and raises this error only when trying to open the repository.

### **type**

Either RID or RMD

### **primary\_type\_recordsize**

The RECORDSIZE option of either the primary RID or RMD (depending on *type*).

### **secondary\_type\_recordsize**

The RECORDSIZE option of either the secondary RID or RMD (depending on *type*).

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Define primary and secondary RMD data sets with the same maximum RECORDSIZE values.

<b>FPQ0023I</b>	<b>Recoverable data set combination identified.</b> <b>Repository:repository_name</b> <b>Primary</b> <b>RID:primary_rid_data_set_state</b> <b>Primary</b> <b>RMD:primary_rmd_data_set_state</b> <b>Secondary</b> <b>RID:secondary_rid_data_set_state</b> <b>Secondary</b> <b>RMD:secondary_rmd_data_set_state</b>
-----------------	--

## Explanation

During repository open processing, Service Repository found that one or more data sets needs to be recovered and can be recovered.

## System action

The repository server proceeds with repository data set recovery processing.

## User response

None. This message is informational.

<b>FPQ0024E</b>	<b>Non-recoverable data set combination identified.</b> <b>Repository:</b> <i>repository_name</i> <b>Primary</b> <b>RID:</b> <i>primary_rid_data_set_state</i> <b>Primary</b> <b>RMD:</b> <i>primary_rmd_data_set_state</i> <b>Secondary</b> <b>RID:</b> <i>secondary_rid_data_set_state</i> <b>Secondary</b> <b>RMD:</b> <i>secondary_rmd_data_set_state</i>
-----------------	--

## Explanation

When trying to open a repository the server determined that recovery is required but cannot be performed. The state can be one of the following:

### Empty data set detected

One or more data sets are empty.

### Update-in-progress state

One or more of the data sets appear to have had an incomplete write operation.

### Data set consistency token token

The data sets do not have the same consistency tokens suggesting that one or more of the data sets belongs to another repository. A recovery will not be attempted.

### Last-update timestamp timestamp

The last-update timestamp of the repositories is inconsistent, suggesting an incomplete write operation. The time stamp format is:

YYYY/MM/DD HH:MM:SS.thmiju

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, Service Repository will terminate.

## User response

Correct the repository data sets, restart them (with total loss of data), or recover them from backups if available. Search for message FPQ0024I for additional information.

<b>FPQ0025I</b>	<b>Repository data set initialization successful.</b> <b>Repository:</b> <i>repository_name</i>
-----------------	--

## Explanation

During repository open processing, all repository data sets were found to be empty and have subsequently been successfully initialized.

## System action

Repository open processing continues.

## User response

None. This message is informational.

<b>FPQ0026I</b>	<b>Recovery of the <i>data_set_type</i> data set successful.</b> <b>Repository:</b> <i>repository_name</i>
-----------------	---

## Explanation

The repository *repository\_name* was successfully recovered. The data set which was recovered can be found by identifying which data set is used for the *data\_set\_type* of that repository.

### *data\_set\_type*

Specifies whether the data set was the primary or secondary, the RID or the RMD.

## System action

Information message only.

## User response

None. This message is informational.

<b>FPQ0027I</b>	<b>Error during phase <i>n</i> update process.</b> <b>Repository . . . :</b> <i>repository_name</i>
-----------------	--

## Explanation

An error has occurred during the 2-phase update process for the given repository data set.

## System action

The given repository is stopped, and needs recovery. If the failure was in phase 1, then the primary RID and RMD data sets are in-error, and the unit-of-work being committed at the time of error is rolled back. If the failure was in phase 2, then the secondary RID and RMD data sets are in-error, and the unit-of-work being committed at the time of error was successful.

## User response

Address the reason for the failure and restart the repository.

<b>FPQ0028E</b>	<b>VSAM function error:<i>function</i> RC=<i>VSAM_return_code</i> RPLERRCD=<i>RPL_error_code</i>. DSN=<i>data_set_name</i></b>
-----------------	--

## Explanation

An unsupported error condition occurred on a VSAM function call.

### ***function***

The type of VSAM function performed:

- VERIFY
- POINT
- GET
- PUT
- ERASE

### ***VSAM\_return\_code***

The VSAM return code.

### ***RPL\_error\_code***

The RPL error code.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, the repository server will terminate.

## User response

Refer to *z/OS DFSMS Macro Instructions for Data Sets* for a complete description of the VSAM error.

<b>FPQ0029E</b>	<b>Unable to load module <i>module</i>: <i>description</i></b>
-----------------	--

## Explanation

As part of server initialization, the server attempted to perform a LOAD for a routine and the LOAD failed.

### ***module***

Name of the module that could not be loaded.

### ***description***

One of the following:

- Module not found
- BLDL for module failed
- LOAD for module failed
- BPELOAD RC=*BPE\_return\_code*

## System action

The repository server will terminate.

## User response

If possible, resolve the condition and restart the server. Otherwise, contact IBM.

<b>FPQ0030E</b>	<b>Data decompression error: <i>description</i></b>
-----------------	---

## Explanation

A compressed RMD member has been detected, however decompression is not supported on the current platform.

### ***description***

One of the following:

- Unsupported on current MVS level
- Up-level data compression detected
- Invalid data compression detected
- CSRCESRV RC=*macro\_return\_code*

## System action

The calling function fails and processing continues.

## User response

Start the repository server on a platform that is compatible with the one the repository member data was written on.

<b>FPQ0031E</b>	<b>VSAM resource pool build failure: <i>description</i></b>
-----------------	---

## Explanation

An error occurred on build VSAM resource pool (BLDVRP) during server initialization.

### ***description***

One of the following:

- Insufficient virtual storage
- BLDVRP *macro\_return\_code*

## System action

The repository server will terminate.

## User response

Refer to *z/OS DFSMS Macro Instructions for Data Sets* for a complete description of the BLDVRP error. Correct the issue and restart the server.

<b>FPQ0032E</b>	<b>Repository data set control interval exceeds VSAM_BUFSIZE. DSN=<i>data_set_name</i></b>
-----------------	--

## Explanation

During repository open processing, a repository data set was found to have a control interval size that exceeded the VSAM shared pool buffer size.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, the repository server will terminate.

## User response

Ensure that the data set name is correct, or modify the VSAM\_BUFSIZE configuration parameter so that the buffer size is equal to or larger than the CI size of the given repository data set.

**Note:** Consideration must be given to both the DATA and INDEX components of the data set.

---

<b>FPQ0033I</b>	<b>Error during CONTROL SET function processing.</b> <b>Repository:</b> <i>repository</i>
-----------------	--

## Explanation

An error has occurred during CONTROL SET processing for the given repository data set, leaving the repository CONTROL data (for example, history retention table and search fields tables) potentially inconsistent.

## System action

The given repository is stopped.

## User response

Contact IBM Software Support.

**Note:** A restart of the repository will reestablish CONTROL data integrity.

---

<b>FPQ0034E</b>	<b>Repository data set in use by another job or user.</b> <b>DSN=</b> <i>data_set_name</i>
-----------------	---

## Explanation

During repository open processing, a repository data set was found to be unavailable.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, the repository server will terminate.

## User response

Retry after ensuring that the data set is available.

---

<b>FPQ0035E</b>	<b>VSAM unable to extend data set: RC=</b> <i>return_code</i> <b>RPLERRCD=</b> <i>RPL_error_code</i> . <b>DSN=</b> <i>data_set_name</i>
-----------------	---

## Explanation

A repository data set was unable to be extended, causing the repository update process to fail.

## System action

The repository is placed in the stopped state and cannot be accessed. If the repository is the catalog, the repository server will terminate.

## User response

Refer to *z/OS DFSMS Macro Instructions for Data Sets* for a more complete description of the VSAM error. Resolve the cause of the data set extension failure, then restart the repository.

---

<b>FPQ0036E</b>	<b>Invalid SPARE RDS data sets. RDSn is now discarded.</b> <b>Repository...:</b> <i>repository_name</i> <b>Description..:</b> <i>description</i>
-----------------	--

## Explanation

Data set validation has failed for an RDS that was designated as a SPARE, where:

### **RDSn**

RDS number 1, 2, or 3.

### **description**

One of the following:

- Data set open-time error
- Data sets not empty
- RECORDSIZE inconsistent with other RDS

## System action

The RDS is discarded.

## User response

Correct the data set issues that caused the RDS to be discarded. DSCHANGE can then be used to alter the RDS status from DISCARD to SPARE.

---

<b>FPQ0037I</b>	<b>RDSn status has been changed to status. Repository...:</b> <i>repository_name</i>
-----------------	---

## Explanation

The status of a repository data set pair has been changed. This can occur when an ADMIN command is used to change the type of a repository data set pair to SPARE or DISCARD; or dynamically in a repository error scenario, for example, a physical I/O error during a two-phase update.

In the message text:

**RDSn**

The repository data set number 1, 2, or 3.

**status**

The repository data set type SPARE or DISCARD.

## System action

The server continues.

## User response

None. This message is informational.

**FPQ0038I VSAM physical error message text**

## Explanation

This message contains the supporting information that is printed when an FPQ0028E message is issued that represents a VSAM physical error (RC=12).

## System action

Refer to message [“FPQ2028E” on page 195](#).

## User response

For a complete description of the VSAM error, see *z/OS DFSMS Macro Instructions for Data Sets*.

**FPQ0039I Spare RDSn has been assigned status status. Repository...: repository\_name**

## Explanation

A SPARE repository data set pair has been assigned COPY1 or COPY2 status. This occurs as part of repository recovery when COPY1 or COPY2 has been discarded.

In the message text:

**RDSn**

The repository data set number 1, 2, or 3.

**status**

The repository data set type COPY1 or COPY2.

## System action

The server continues.

## User response

None. This message is informational.

---

**FPQ0040E Repository cannot be started: reason. Repository...: repository\_name RDS1 status...: status RDS2 status...: status RDS3 status...: status**

## Explanation

The repository cannot be started due to *reason*.

In the message text:

**reason**

### SPARE RDS required

During repository start or open processing, it was determined that the repository cannot be started because a COPY1 or COPY2 repository data set needs to be recovered but there is no SPARE recovery data set to facilitate this recovery.

### No COPY1 or COPY2 RDS

During repository start or open processing, it was determined that the repository cannot be started because there are no repository data sets with COPY1 or COPY2 status. This is a Service Repository error.

**status**

The repository data set type COPY1, COPY2, or SPARE.

## System action

The repository is stopped and cannot be accessed.

## User response

Take the appropriate action depending on *reason*:

### SPARE RDS required

Reset the discarded data sets and change the associated repository data set status to SPARE.

**Tip:** If the data sets were discarded because they could not be extended, increase the data sets size.

### No COPY1 or COPY2 RDS

Perform the following steps:

**Important:** Make a backup copy before performing the following steps. Reinitializing the repository data sets results in complete loss of data.

1. Reinitialize or recover the data sets from backups if available.
2. Redefine the user repository to establish RDS1 as COPY1 and RDS2 as COPY2.

---

**FPQ1001E Configuration error: xxxxxx**

## Explanation

An error in the JCL initialization script prevented the Service Repository server from initializing. Depending on the message description, this could have been because of a missing keyword, parameter, or a reference to an invalid PDS member. For example, a member that does not exist.

## System action

Job terminated.

## User response

Review the startup JCL, ensure all parameters are valid, and rerun the job.

---

**FPQ1002E Error processing PROCLIB member xxxxxxxx  
Description: xxxxxx**

## Explanation

One of the following errors is detected in the server configuration parameter member:

- Error reading PROCLIB member
- OPEN failed for PROCLIB PDS
- PROCLIB PDS not in fixed format
- PROCLIB member not found

## System action

Job terminated.

## User response

Review the startup JCL, ensure all parameters are valid, and rerun the job.

---

**FPQ1003I xxxxxx**

## Explanation

These are informational messages indicating the processing stage.

## System action

None.

---

## User response

None. This message is informational.

---

**FPQ1005E Error parsing PROCLIB member  
xxxxxxxx, BPEPARSE  
RC=xx**

## Explanation

An error is detected in the server configuration parameter member. BPE0003E messages provide details of the error identified by the BPE parameter parser.

## System action

Job terminated.

## User response

Correct the invalid parameter.

---

**FPQ1007E Invalid XCF group name specified:  
xxxxxxxx**

## Explanation

The XCF\_GROUP\_NAME server configuration parameter value is invalid.

## System action

The server terminates.

## User response

Provide a valid XCF group name.

---

**FPQ1008E Invalid number of XCF threads  
specified: xxxx  
Valid range is 4 through 99.**

## Explanation

The XCF\_THREADS server configuration parameter value is invalid. If specified, the value must be in the range 4 - 99.

## System action

The server terminates.

## User response

Provide a valid range.

---

**FPQ1009E Invalid core size specified: xxxx  
Valid range is 32 through 4096 (K).**

## Explanation

The MBR\_CORE\_MAX server configuration parameter value is invalid. If specified, the value must be in the range 32 - 4096 (K).

## System action

The server terminates.

## User response

Provide a valid range.

---

**FPQ1010E**    **Invalid SAF class name specified:  
xxxx**

## Explanation

The specified SAF class is not a valid SAF class name.

## System action

The server terminates.

## User response

Provide a valid SAF class name.

---

**FPQ1011E**    **Invalid number of VSAM buffers  
specified: xxxx  
Valid range is 3 through 65535.**

## Explanation

The VSAM\_BUFNO server configuration parameter is invalid. If specified, the value must be in the range 3 - 65535.

## System action

The server terminates.

## User response

Provide a valid range.

---

**FPQ1012E**    **Invalid maximum retry count  
specified: xxx  
Valid range is 1 through 255.**

## Explanation

The MAX\_COMMUNICATION\_RETRY server configuration parameter value is invalid. If specified, the value must be in the range 1 - 255.

## System action

The server terminates.

## User response

Provide a valid range.

---

**FPQ1015E**    **SAF class not defined: xxxx**

## Explanation

The SAF class could not be identified. Possible reasons:

- Security (RACF) not installed.
- The class was not defined.

## System action

The server will terminate.

## User response

Correct the FPQ configuration parameter member if the SAF class is not as expected, or make sure the SAF class is defined.

---

**FPQ1016E**    **Invalid DSN specified: *description***

## Explanation

A server configuration parameter that specifies one of the Catalog repository data set names is invalid.

In the message text:

### *description*

The Catalog repository data set that contains the invalid name.

## System action

The server terminates.

## User response

Correct the parameter value and rerun the job.

---

**FPQ1018E**    **Invalid AUDIT\_LOG specified:  
<*logname*>**

## Explanation

The value specified in the AUDIT\_LOG server configuration parameter is not a valid MVS log stream name. In the message text:

### *logname*

The value of the AUDIT\_LOG parameter specified in the FPQ configuration member.

## System action

The server terminates.

## User response

Correct the parameter value and rerun the job.

<b>FPQ1019E</b>	<b>Invalid AUDIT_ID number specified: &lt;nnn&gt;. Valid range is 160 through 255.</b>
-----------------	--

## Explanation

The value specified by the AUDIT\_ID server configuration parameter is invalid. The value must be in the range 160 - 255.

In the message text:

*nnn*

The value of the AUDIT\_ID parameter specified in the FPQ configuration member.

## System action

The server terminates.

## User response

Correct the parameter value and rerun the job.

<b>FPQ2001I</b>	<b>Subordinate repository server status obtained.</b>
-----------------	---

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

<b>FPQ2002I</b>	<b>Master repository server status obtained.</b>
-----------------	--

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

<b>FPQ2003I</b>	<b>Attempting to become master repository server.</b>
-----------------	---

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

<b>FPQ2004I</b>	<b>FPQPRINT DD not defined. Trace facility not available.</b>
-----------------	---

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

<b>FPQ2005I</b>	<b>Shutdown command received, server terminating.</b>
-----------------	---

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

<b>FPQ2007I</b>	<b>Shutdown command received, notifying all repository servers to shut down.</b>
-----------------	--

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

<b>FPQ2011E</b>	<b>Shutdown command rejected, shutdown in progress.</b>
-----------------	---

## Explanation

The shutdown command entered was rejected because the system is already processing a shutdown command.

## System action

None.

## User response

None.

---

**FPQ2012I**    **Opening repository: xxxxxxx**

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

---

**FPQ2013I**    **Closing repository: xxxxxxx**

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

---

**FPQ2014I**    **Repository start request initiated: xxxxxxx**

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

---

**FPQ2015I**    **Repository stopped: xxxxxxxx**

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

---

**FPQ2016I**    **Repository opened: xxxxxxx**

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

---

**FPQ2017I**    **Repository closed: xxxxxxx**

## Explanation

Information message only.

## System action

None.

## User response

None. This message is informational.

---

**FPQ2018E**    **Unable to open repository.**  
**Repository: xxxxxxx**  
**Description: Repository definition in use**

## Explanation

The repository server failed to open the named repository because the repository definition in the CATALOG is being used.

## System action

None.

## User response

Retry at a later time.

---

<b>FPQ2020I</b>	<b>Repository stop request initiated: <i>repository</i></b>
-----------------	---

### Explanation

The repository server received a request to stop the repository *repository*. The asynchronous process to perform this action has been initiated.

### System action

The originator of the STOP request is notified that the request was accepted. The asynchronous process to perform the STOP action continues.

### User response

None. This message is informational.

---

<b>FPQ2021I</b>	<b>Repository started: <i>repository</i></b>
-----------------	--

### Explanation

The repository *repository* is started. An ADMIN START request for repository *repository* was driven from the console.

### System action

None.

### User response

None. This message is informational.

---

<b>FPQ2022E</b>	<b>Repository unavailable: <i>repository</i></b>
-----------------	--

### Explanation

This message indicates that the repository *repository* is unavailable for processing. The message is issued if:

- The Catalog repository is unavailable during server initialization. The server terminates.
- An ADMIN command for repository *repository* is suppressed. This occurs when a repository is temporarily unavailable due to an in-progress state change, for example, the repository is in the process of being stopped.

### System action

- If the message is issued because the Catalog repository is unavailable, the server terminates.
- If the message is issued because of a suppressed ADMIN command, there is no system action.

### User response

Review the status of repository *repository* and reissue the command if applicable.

---

<b>FPQ2023E</b>	<b>Repository not found: <i>repository</i></b>
-----------------	--

### Explanation

An ADMIN command for repository *repository* was received, but the request could not be performed because the specified repository is unknown.

### System action

None.

### User response

Correct the repository name and reissue the command.

---

<b>FPQ2024E</b>	<b>Request ignored, repository already started   stopped: <i>repository</i></b>
-----------------	---

### Explanation

An ADMIN=START or ADMIN=STOP command for repository *repository* was received, but the request was ignored because the repository is already in the requested state.

### System action

None.

### User response

None.

---

<b>FPQ2025I</b>	<b>Server start completed</b>
-----------------	-------------------------------

### Explanation

The server is now ready to accept client connections.

### System action

None.

### User response

None. This message is informational.

---

<b>FPQ2026I</b>	<b>XCF group <i>group</i> joined successfully</b>
-----------------	---

## Explanation

The XCF group was successfully joined. The IMS Tools KB server can now accept XCF registrations and connections for XCF group *group*. In the message text:

### group

The XCF group name in the FPQ configuration member.

## System action

None.

## User response

None. This message is informational.

---

<b>FPQ2027E</b>	<b>Unable to connect to audit log stream, server terminating</b>
-----------------	--

## Explanation

The log stream is unavailable and AUDIT\_FAIL=ABORT was specified in the server configuration parameters.

## System action

The IMS Tools KB server terminates.

## User response

Ensure that the AUDIT\_LOG parameter specifies a valid log stream name and that the log stream is set up correctly. Optionally, bypass the audit log by setting AUDIT\_FAIL=CONTINUE or AUDIT=NO.

---

<b>FPQ2028E</b>	<b>DUMPTRACE   DUMPSTATS command ignored because FPQPRINT DD not allocated</b>
-----------------	--

## Explanation

A MODIFY DUMPTRACE or DUMPSTATS command was issued but the DD name FPQPRINT was not found or was not open.

## System action

The command is ignored and the IMS Tools KB server continues.

## User response

Ensure that the DD FPQPRINT is available on the next restart of the server.

---

<b>FPQ2029E</b>	<b>Log stream connection failed</b>
	<b>RC=rc RSN=rsn</b>

## Explanation

The log stream connection (IXGCONN) failed. In the message text:

### rc

The IXGCONN return code.

### rsn

The IXGCONN reason code.

## System action

If AUDIT\_FAIL=ABORT, the server terminates, otherwise, no system action.

## User response

Check the return and reason codes to determine the cause of the error. Optionally, bypass the audit log by setting AUDIT\_FAIL=CONTINUE or AUDIT=NO.

---

<b>FPQ2030E</b>	<b>ENF listener activation failed</b>
	<b>RC=rc</b>

## Explanation

The ENF listener activation (ENFREQ) failed. In the message text:

### rc

Indicates the ENFREQ return code.

## System action

If AUDIT\_FAIL=ABORT is specified, the server terminates.

## User response

Check the return code to determine the cause of the error. For a complete description of ENFREQ return codes, see *z/OS MVS Programming: Authorized Assembler Services Reference, Vol 2 (EDT-IXG)*. You can optionally bypass the audit log by setting AUDIT\_FAIL=CONTINUE or AUDIT=NO.

---

<b>FPQ2031I</b>	<b>Audit logging suspended due to CONNECT   WRITE</b>
	<b>RC=rc RSN=rsn</b>

## Explanation

Audit logging is suspended due to an outstanding error while connecting to or writing to the log stream (IXGCONN REQUEST=CONNECT or IXGWRITE).

**Important:** If AUDIT\_FAIL=CONTINUE is specified, it is possible that records might be missing from the audit log because logging is suspended.

## System action

- If AUDIT\_FAIL=CONTINUE is specified, the server continues.
- If AUDIT\_FAIL=ABORT is specified and the error occurred on CONNECT during server startup, the server shuts down.
- If AUDIT\_FAIL=ABORT is specified and the error occurred on WRITE, the server waits until either the problem is resolved automatically, the server is shut down, or the problem is resolved manually and a MODIFY AUDIT RESTART command is successfully issued. No logging is performed until the problem is resolved. This message is reissued every 60 seconds until audit logging resumes.

## User response

Repair the logging problem and issue a MODIFY AUDIT RESTART command to restart the logging service.

**FPQ2032I Audit logging resumed**

## Explanation

The audit logging error has been corrected. Auditing will continue.

**Important:** If AUDIT\_FAIL=CONTINUE is specified, it is possible that records might be missing from the audit log because logging is suspended.

## System action

None.

## User response

None. This message is informational.

**FPQ2033E Unexpected TCPIP response. IP operation was *operation*, ERRNO was *errno***

## Explanation

The Service Repository received an unexpected IP network response while attempting to perform a function by using the IP network.

## System action

The Service Repository server attempts to continue processing without the IP network connection.

## User response

To determine the recommended action, see the sockets return codes (ERRNOs) in z/OS

*Communications Server: IP Sockets Application Programming Interface Guide and Reference.*

**FPQ2034I**

**Lost XCF client**

**Sysname=MVS\_system**  
**Jobname=client\_job\_name,**  
**response discarded**

## Explanation

This is a response to a z/OS cross-system coupling facility (XCF) client request that could not be sent by the Repository Server and has been discarded. This error occurs if the client fails (for example, the client is canceled) while the repository server is processing the request on behalf of the client.

In the message text:

**MVS\_system**

Indicates the MVS system name of the XCF client.

**client\_job\_name**

Indicates the job name of the XCF client.

## System action

None.

## User response

For more information, look up RC=8, RSN=IXCMMSGORSNTARGETNOTVALID for the IXCMMSGO macro in *z/OS MVS Programming: Sysplex Services Reference*.

**FPQ2100I**

**ADMIN DISPLAY repository**

**repository**

- Last updated date/time : **date\_time** **userID**
- Status ..... : **status**
- Auto-open ..... : **autoopen\_flag**
- Security Class .... : **class**

## Explanation

This message shows the result of the following console z/OS MODIFY ADMIN command:

**F server,ADMIN DISPLAY(repository)**

In the message text:

**repository**

Indicates the name of the IMSRSC repository.

**date\_time**

Indicates the date and time the repository was last updated.

<b>userID</b>	Indicates the user ID of the user who last updated the repository.
<b>status</b>	Indicates the status of the repository.
<b>autoopen_flag</b>	Indicates whether the repository data set is allocated when the repository is started.
<b>class</b>	Indicates the name of the security class.

## System action

Processing continues.

## User response

None. This message is informational.

<b>FPQ2101I</b>	<b>ADMIN DISPLAY repository RDSn:</b>
	- Index (RID) . . . :
	RID_data_set_name
	- Member (RMD) . . . :
	RMD_data_set_name
	- Status . . . . . : status

## Explanation

This message shows the result of the following console z/OS MODIFY ADMIN command:

```
F server,ADMIN DISPLAY(repository)
```

This is a supplement to FPQ2100I and is displayed once for each defined repository data set pair.

In the message text:

### RDSn

Indicates the repository data set number: 1, 2, or 3.

### RID\_data\_set\_name

Indicates the name of the repository index data set (RID).

### RMD\_data\_set\_name

Indicates the name of the repository member data set (RMD).

### status

Indicates the status of the named repository.

## System action

Processing continues.

## User response

None. This message is informational.

<b>FPQ2102I</b>	<b>repository repository_status</b>
	<b>update_date update(userID)</b>
	<b>RDS1_status RDS2_status</b>
	<b>RDS3_status</b>

## Explanation

This message shows the result of the following console z/OS MODIFY ADMIN command:

```
F server,ADMIN DISPLAY()
```

This message is repeated for each repository.

In the message text:

### repository

Indicates the name of the repository.

### repository\_status

Indicates the current status of the repository.

### update\_date

Indicates the last updated date of the repository.

### update(userID)

Indicates the user ID by which the repository was last updated.

### RDS1\_status

Indicates the status of RDS1.

### RDS2\_status

Indicates the status of RDS2.

### RDS3\_status

Indicates the status of RDS3.

## System action

Processing continues.

## User response

None. This message is informational.

<b>FPQ2103I</b>	<b>Audit level changed from old_level to new_level</b>
-----------------	--

## Explanation

This message shows the result of the following console z/OS MODIFY AUDIT command:

```
F server,AUDIT LEVEL(new_level)
```

In the message text:

### old\_level

Indicates the old audit level of the repository.

### new\_level

Indicates the new audit level of the repository.

## System action

Processing continues.

## User response

None. This message is informational.

---

**FPQ2104I**    **Audit level unchanged from *old\_level***

## Explanation

This message shows the result of the following console z/OS MODIFY AUDIT command:

```
F server,AUDIT LEVEL(new_level)
```

In the message text:

### *old\_level*

Indicates the old audit level of the repository.

## System action

Processing continues.

## User response

None. This message is informational.

---

**FPQ2105I**    **In-core user security profiles refreshed**

## Explanation

This message shows the result of the following console z/OS MODIFY SECURITY command:

```
F server,SECURITY REFRESH
```

## System action

Processing continues.

## User response

None. This message is informational.

---

**FPQ2106E**    **Security request rejected, CLASS not defined**

## Explanation

This message shows the result of the following console z/OS MODIFY SECURITY command:

```
F server,SECURITY REFRESH
```

Security settings cannot be refreshed because security is not active for this repository.

## System action

Processing continues, but the security settings are not refreshed.

## User response

Specify a security class in the SAF\_CLASS parameter in the FPQ configuration file, then restart the server.

---

**FPQ2107E**    **DSCHANGE request rejected, *reason***

## Explanation

This message shows the result of the following console z/OS MODIFY ADMIN DSCHANGE command:

```
F server,ADMIN DSCHANGE(repname,S|D,1|2|3)
```

In the message text:

### *reason*

Indicates the reason of this error. The *reason* can be one of the following:

- Repository data set status is unchanged
- RDS status not available for this request
- DISCARD rejected; no SPARE repository data set
- DISCARD rejected; last COPY repository data set
- Invalid repository data set data sets
- Repository data set status changes detected
- Repository not STOPPED

## System action

The command is not processed.

## User response

View the repository details by using the ADMIN DISPLAY command, and examine the status of the repository data set before reissuing the command.

---

**FPQ2108E**    **Amount of repository member list data exceeds storage limit**  
**Repository...: *repository\_name***

## Explanation

The total amount of member list data in repository *repository\_name* (repository index data (RID) and repository member data (RMD)) exceeds the internal storage limit on the server.

## System action

The calling function fails, and server processing continues.

## User response

Delete some of the data from the repository, and rerun the job or request the ISPF action again. If for some reason you are unable to delete data from the repository, contact IBM Software Support.

---

**FPQ3001I**    **STACKING PC - FPQ SUBSYSTEM INSTALLED**

---

## Explanation

The Service Repository subsystem has been installed and its initialization routine FPQCSSI2 has established a stacking PC.

It is still possible to get error message FPQ3005 after this, but the resolution of this error does not require the subsystem to be reinstalled.

See FPQ3005 description.

## System action

None.

## User response

None. This message is informational.

---

**FPQ3002E**    **STACKING PC - FPQ SUBSYSTEM NOT FOUND**

---

## Explanation

The subsystem with the subname FPQ could not be located in the systems SSCT.

## System action

Subsystem initialization cannot take place. All API calls will fail with a reason code RSN\_FPQSS\_NOT\_FOUND (x'001')

## User response

Make sure the correct SUBSYS command has been issued, or the correct entry placed into the parameter library member IEFSSNxx.

---

**FPQ3003E**    **STACKING PC - FPQ SUBSYSTEM ALREADY INSTALLED**

---

## Explanation

The Service Repository subsystem should only be installed once. The FPQCRFSH utility can be used to refresh the FPQCXCF2 module.

## System action

The second installation of the stacking PC is rejected.

## User response

None.

---

**FPQ3005E**    **STACKING PC - MODULE FPQCXCF2 NOT LOCATED**

---

## Explanation

The Service Repository subsystem has successfully installed and established the stacking PC, but the client XCF module FPQCXCF2 can not be located in LPA.

## System action

All API calls will fail with a reason code RSN\_NO\_CLIENT\_XCF (x'115')

## User response

Module FPQCXCF2 must be made available in LPA. Use the refresh utility FPQCRFSH in conjunction with the SETPROG LPA,ADD command to add FPQCXCF2 to LPA and allow the stacking PC code to locate it.

---

**FPQ3006E**    **STACKING PC - FPQ SUBSYSTEM NOT INITIALIZED**

---

## Explanation

This error message is issued by the refresh utility FPQCRFSH. It is issued if the FPQ subsystem is located but has not been initialized. This can happen if the initialization routine FPQCSSI2 was not available in LPA at the time the subsystem was installed.

## System action

All API calls will fail with a reason code RSN\_CSSPC\_ERR (x'110').

## User response

The FPQ subsystem and stacking PC must be installed correctly. The system must be IPLed, FPQCSSI2 and FPQCXCF2 made available in LPA, and the FPQ subsystem reinstalled.

<b>FPQ3007W</b>	<b>MODULE FPQCXCF2 EYECATCHER INFORMATION HAS NOT CHANGED</b>
-----------------	---

## Explanation

This error message is issued by the refresh utility FPQCRFSH. It is a warning to say that the version of module FPQCXCF2 just installed contains the same eyecatcher date and time as the one being replaced. The load module eyecatcher date and time are set at compile time, so this indicates that the same version of FPQCXCF2 has been reinstalled.

This may indicate that the system commands SETPROG LPA,DELETE and SETPROG LPA,ADD were either not issued, or issued incorrectly.

## System action

None.

## User response

Check system commands issued, and rerun the FPQCRFSH utility if necessary.

<b>FPQ3008I</b>	<b>STACKING PC - DYNAMICALLY ADDING FPQ2 SUBSYSTEM</b>
-----------------	--

## Explanation

The refresh utility (FPQCRFSH) determined that the FPQ subsystem is not present. The FPQCRFSH utility will attempt to add the subsystem dynamically.

## System action

Processing continues.

## User response

Look for later message FPQ3001I, which will indicate the success of the dynamic subsystem add request, otherwise an error message is displayed.

<b>FPQ3010I</b>	<b>ENTER SETPROG DELETE AND ADD COMMANDS, REPLY 'C' WHEN COMPLETED</b>
-----------------	--

## Explanation

This is the WTOR issued by the refresh utility FPQCRFSH.

## System action

None.

## User response

None. This message is informational.

<b>FPQ3101E</b>	<b>XCF SRB FAILURE: FPQCMSRB - TXXXX REASON=xxxxxxxx</b>
-----------------	--

## Explanation

XCF message exit (FPQCMSRB) hardcoded WTO message. The functional recovery routine (FRR) of the service request block (SRB) has trapped an abend in order to report the event through this WTO message.

## System action

Processing ends for the affected SRB. The client might be placed in wait state.

## User response

Contact IBM Software Support.

<b>FPQ3102E</b>	<b>XCF SRB FAILURE: FPQCGSRB - TXXXX REASON=xxxxxxxx</b>
-----------------	--

## Explanation

XCF group exit (FPQCGSRB) hardcoded WTO message. The functional recovery routine (FRR) of the service request block (SRB) has trapped an abend in order to report the event through this WTO message.

## System action

Processing ends for the affected SRB.

## User response

Contact IBM Software Support.

<b>FPQ3103E</b>	<b>XCF SRB FAILURE: FPQSMSRB - TXXXX REASON=xxxxxxxx</b>
-----------------	--

## Explanation

XCF message exit (FPQSMSRB) hardcoded WTO message. The functional recovery routine (FRR) of the service request block (SRB) has trapped an abend in order to report the event through this WTO message.

## System action

Processing ends for the affected SRB.

## User response

Contact IBM Software Support.

<b>FPQ3104E</b>	<b>XCF SRB FAILURE: FPQSGSRB - TXXXX REASON=xxxxxxxx</b>
-----------------	--

## Explanation

XCF group exit (FPQSGSRB) hardcoded WTO message. The functional recovery routine (FRR) of the service request block (SRB) has trapped an abend in order to report the event through this WTO message.

## System action

Processing ends for the affected SRB.

## User response

Contact IBM Software Support.

<b>FPQ3105E</b>	<b>XCF SRB FAILURE: FPQSSSRB - TXXXX REASON=xxxxxxxx</b>
-----------------	--

## Explanation

XCF subordinate-server group exit (FPQSSSRB) hardcoded WTO message. The functional recovery routine (FRR) of the service request block (SRB) has trapped an abend in order to report the event through this WTO message.

## System action

Processing ends for the affected SRB.

## User response

Contact IBM Software Support.

<b>FPQ3106E</b>	<b>XCF ERROR: <i>module</i> - MSGX RC=xx REASON=xxxxxxxx</b>
-----------------	--

## Explanation

A failure occurred in an XCF member exit. *module* is either FPQCMSRB (client-side exit) or FPQSMSRB (server-side exit). Either an IXCMMSGI (XCF input message) macro or an IXCMMSGO (XCF output message) macro failed. This error is not expected to occur, so this SRB event is recorded through this WTO.

## System action

Processing ends for the affected SRB.

## User response

Check with Systems Programming. Increase XCF control blocks.

<b>FPQ3107E</b>	<b>XCF SRB FAILURE: &lt;<i>module</i>&gt; - CB=xxxx ARCLEV=xx</b>
-----------------	---

## Explanation

A failure occurred in a cross-system coupling facility (XCF) member exit. The service request block (SRB) has encountered an unsupported architecture level or control block.

In the message text:

### *module*

Indicates the module in which the failure occurred. The *module* can be either FRPCMSRB (client-side exit) or FRPMSMSRB (server-side exit).

### *xxxx*

Indicates the data that was found in the control block where a control block eye-catcher was expected.

### *xx*

Indicates the extracted architecture level that is not supported. The architecture level (ARCLEV) value is displayed if the eye-catcher represents a valid block.

## System action

Indicates the extracted architecture level that is not supported. The architecture level (ARCLEV) value is displayed if the eye-catcher represents a valid block.

## User response

Check that the client and the server are both running at the same maintenance level. Contact IBM Software Support.

<b>FPQ3108E</b>	<b>ENF ERROR: FPQSENF - MSGx RC=xx REASON=xxxxxxxx</b>
-----------------	--

## Explanation

A failure occurred in the server-side ENF listener exit (FPQSENF). The functional recovery routine (FRR) of the service request block (SRB) has trapped the abend in order to report the event by using this message.

## System action

Processing ends for the affected SRB.

## User response

Verify that the client and the server are both running at the same maintenance level. Contact IBM Software Support.

<b>FPQ3109E</b>	<b>XCF SRB FAILURE: FPQCMSRB - SLOT MISMATCH</b>
-----------------	--

## Explanation

A failure occurred in the client-side XCF member exit (FPQCMSRB). The service request block (SRB) identified a consistency token mismatch between a server response and the associated client slot.

## System action

Processing ends for the affected SRB. The client might be placed in wait state.

## User response

Contact IBM Software Support.

<b>FPQ3110E</b>	<b>XCF SRB FAILURE: FPQCMSRB - BAD SLOT STATE FLAG1=xx</b>
-----------------	--

## Explanation

A failure occurred in the client-side XCF member exit (FPQCMSRB). The service request block (SRB) identified an issue while processing a server response. The state of the associated client slot was not as expected.

In the message text:

**xx**

Indicates the slot state flag byte. This value is returned for diagnostic purposes.

## System action

Processing ends for the affected SRB. The client might be placed in wait state.

## User response

Contact IBM Software Support.

<b>FPQ3111I</b>	<b>RESMGR FPQSRV RC=rc/rsn FC=fc FDBK=xxxxxxxx xxxxxxxx xxxxxxxx</b>
-----------------	--

## Explanation

While attempting client FPQ object cleanup, the FPQ client-side RESMGR exit (FPQCRMGR) issued an FPQSRV request, but the request failed or ended in error. This message is issued to capture the feedback for diagnostic purposes and might not represent any error.

In the message text:

**rc**

Indicates the return code for this error.

**rsn**

Indicates the reason code for this error.

**fc**

Indicates the FPQ function code that is listed in the FPQCRMGR macro.

**xxxxxxxx xxxxxxxx xxxxxxxx**

Indicates the feedback that was captured for diagnostic purposes.

## System action

RESMGR processing attempts to continue.

## User response

Capture diagnostic information on request from IBM Software Support.

<b>FPQ3112E</b>	<b>RESMGR XCF2 RC=rc/rsn FC=fc FDBK=xxxxxxxx xxxxxxxx xxxxxxxx</b>
-----------------	--

## Explanation

While attempting client FPQ client object cleanup, the FPQ client-side RESMGR exit (FPQCRMGR) issued an FPQ stacking PC (FPQXCF2) request, but this request failed.

In the message text:

**rc**

Indicates the return code for this error.

**rsn**

Indicates the reason code for this error.

**fc**

Indicates the CSSP function code. This code is not defined in an API macro and is only of value to IBM Software Support.

**xxxxxxxx xxxxxxxx xxxxxxxx**

Indicates the feedback that was captured for diagnostic purposes.

## System action

RESMGR processing attempts to continue.

## User response

Contact IBM Software Support.

<b>FPQ3113E</b>	<b>RESMGR DELETE UNSUCCESSFUL RC=xx TCB=xxxxxxxx</b>
-----------------	--

## Explanation

While attempting client FPQ object cleanup, the FPQ client-side RESMGR exit (FPQCRMGR) failed in its attempt to delete the RESMGR for the task.

In the message text:

**xx**

Indicates the return code from the RESMGR macro.

**xxxxxx**

Indicates the TCB of the task where the RESMGR is running.

## System action

RESMGR processing attempts to continue.

## User response

Contact IBM Software Support.

---

**FPQ4000E      Function *xxxxxx* failed with reason code *xxx***

## Explanation

Service repository API function *xxxxxx* received an error with reason code RSN.

## System action

Processing is stopped at the point of error.

## User response

Refer to the FPQ reason codes section of this user's guide for a description of the error.

---

**FPQ4001E      FPQ subsystem not found**

## Explanation

The FPQ subsystem is not installed.

## System action

No processing is performed.

## User response

Ensure the installation of the FPQ subsystem was performed successfully.

---

**FPQ4002E      XCF group *xxxxxx* not found**

## Explanation

The XCF group as supplied in the PARM parameter on the job EXEC statement cannot be found.

## System action

No processing is performed.

## User response

Check the XCF group name set up in the Service Repository server configuration matches that supplied in the job parameters.

Check the Service Repository server has started successfully.

---

**FPQ4003E      No FPQ server is active in the XCF group *xxxx***

## Explanation

The Service Repository server is not found in XCF group as supplied in the PARM parameter on the job EXEC statement.

## System action

No processing is performed.

## User response

Check the XCF group name set up in the Service Repository server configuration matches that supplied in the job parameters.

Check the Service Repository server has started successfully.

---

**FPQ4004E      The FPQ server is in shutdown mode**

## Explanation

Either an error has occurred and the server is in the processes of shutting down, or a shutdown command has been issued for the server and the server is in the process of shutting down.

## System action

Processing is stopped at the point of error.

## User response

Check the server's message log for error messages or shutdown request messages.

---

**FPQ4005E      The FPQ server has shutdown or has failed**

## Explanation

Either an error has occurred in the server, or a shutdown command has been issued for the server and the server is no longer active.

## System action

Processing is stopped at the point of error.

## User response

Check the server's message log for error messages or shutdown request messages.

<b>FPQ4006E</b>	<b>The FPQ server is busy, try again later</b>
-----------------	--

## Explanation

## System action

Processing is stopped at the point of error.

## User response

Try resubmitting the JCL.

<b>FPQ4008E</b>	<b>xxxxxx repository not found</b>
-----------------	------------------------------------

## Explanation

The server could not find the named repository.

## System action

Processing is stopped at the point of error.

## User response

Ensure that the supplied repository name is correct, or check the server message log for error messages.

<b>FPQ4009E</b>	<b>xxxxxx repository not available</b>
-----------------	--

## Explanation

The repository might be stopped, in the process of stopping, or in error.

## System action

Processing is stopped at the point of error.

## User response

Check the server message log to establish the cause. If the repository is in stopped status, it can be started again with a START command. If the cause is due to an error, contact IBM Software Support.

<b>FPQ4010E</b>	<b>User has insufficient access</b>
-----------------	-------------------------------------

## Explanation

Function call rejected by SAF due to lack of authority.

## System action

No processing is performed.

## User response

Ensure that you have defined the SAF security as required.

<b>FPQ4014E</b>	<b>xxxxxx is in use</b>
-----------------	-------------------------

## Explanation

An update or delete of a repository definition has been requested, but the repository definition is locked for use by another job or user.

## System action

Processing is stopped at the point of error.

## User response

Try resubmitting batch commands from the one in error.

<b>FPQ4022E</b>	<b>Repository <i>repository_name</i> already defined in the catalog</b>
-----------------	---

## Explanation

An attempt was made to add a repository to the Catalog repository, but a repository of the same name already exists.

## System action

Processing is stopped.

## User response

Specify a unique repository name and retry.

<b>FPQ4031E</b>	<b>Catalog busy, repository definition entry <i>repository_name</i> is not available</b>
-----------------	--

## Explanation

The entry in the Catalog repository for the repository *repository\_name* is currently unavailable. The Catalog repository was in the process of making another, conflicting update.

## System action

The command was rejected.

## User response

Retry later.

---

<b>FPQ4032E</b>	<b>Repository <i>repository_name</i> is not in stopped status</b>
-----------------	---

## Explanation

A repository must be stopped before you can attempt to update or delete it.

## System action

Processing is stopped.

## User response

Issue a stop request against the repository. Check the server message log for the stop completed message.

---

<b>FPQ4040W</b>	<b>Repository <i>repository_name</i> RDS status is unchanged</b>
-----------------	--

## Explanation

The repository data set status is unchanged. The repository data set is already in the required state.

## System action

Processing continues.

## User response

None.

---

<b>FPQ4041E</b>	<b>Repository <i>repository_name</i> RDS status not applicable</b>
-----------------	--

## Explanation

The status of the repository data set is not applicable to this request. This message is issued when, for example, you attempt to use a repository data set that has a status of COPY1 or COPY2 as a SPARE data set.

## System action

Processing is stopped.

## User response

Display the repository information and check its current state. Check the server message log for error messages.

---

## FPQ4042E

**Repository *repository\_name* DISCARD rejected, need SPARE RDS**

## Explanation

A discard request was rejected because a SPARE repository data set is not available. This message is issued when, for example, you attempt to discard a COPY1 or COPY2 IMSRSC repository data set when there is no SPARE repository data set available.

## System action

Processing is stopped.

## User response

Display the repository information and check its current state. Check the server message log for error messages.

---

## FPQ4043E

**Repository *repository\_name* DISCARD rejected, last COPY RDS**

## Explanation

A discard request was rejected because this is the last available COPY repository data set. This message is issued when, for example, you attempt to discard a COPY1 repository data set when there is no COPY2 repository data set.

## System action

Processing is stopped.

## User response

Display the repository information and check its current state. Check the server message log for error messages.

---

## FPQ4044E

**Repository *repository\_name* RDS data sets invalid**

## Explanation

The repository data sets are invalid. This message is issued when, for example, you attempt to copy a discarded repository data set to the SPARE repository data set but the basic validation for the data sets fails.

## System action

Processing is stopped.

## User response

Display the repository information and check its current state. Check the server message log for error messages.

**FPQ4045E      Repository *repository\_name* RDS data sets not empty**

## Explanation

The repository data sets are not empty. This message is issued when, for example, you attempted to change the status of a repository data set pair from DISCARD to SPARE but the data sets are not empty. In this case, the status of the repository data set is not changed and remains in a discarded state.

## System action

Processing is stopped.

## User response

Display the repository information and check its current state. Check the server message log for error messages.

**FPQ4046E      Resultant repository definition is invalid. Request rejected.**

## Explanation

An ADD or UPDATE batch request for the repository definition was rejected because an error was detected during validation of the repository definition.

## System action

Processing is stopped.

## User response

Review the parameter values that are specified in the request, correct any errors, and try the request again. If this is an UPDATE request, the specified parameter values must be considered in the context of the current repository definition.

**FPQ4273E      Server error. Feedback: *xxxxxx* *xxxxxx* *xxxxxx***

## Explanation

An unexpected error occurred on the server.

## System action

Processing is stopped at the point of error.

## User response

Contact IBM Software Support.

**FPQ4700E      SYSPRINT DD is missing**

## Explanation

The SYSPRINT DD was not specified in the JCL.

## System action

Processing is stopped immediately.

## User response

Specify the SYSPRINT DD in the JCL and retry.

**FPQ4701E      Error opening SYSPRINT file, RC=xxx**

## Explanation

Error opening SYSPRINT file.

## System action

Processing is stopped immediately.

## User response

Refer to the *z/OS DFSMS Macro Instructions for Data Sets* for OPEN macro return codes.

**FPQ4702E      SYSIN file missing**

## Explanation

The SYSIN DD was not specified in the JCL.

## System action

Processing is stopped immediately.

## User response

Specify the SYSIN DD in the JCL and retry.

**FPQ4703E      Error opening SYSIN file. RC= xxx**

## Explanation

Error opening SYSIN file.

## System action

Processing is stopped immediately.

## User response

Refer to *z/OS DFSMS Macro Instructions for Data Sets* for OPEN macro return codes.

---

**FPQ4704E Virtual storage obtain request failed. Length= xxxx**

## Explanation

The specified amount of storage could not be obtained.

## System action

Processing is stopped immediately.

## User response

Increase the REGION size of your job. If this does not correct the problem, contact IBM Software Support.

---

**FPQ4705E XCFGROUP must be supplied in the PARM parameter on the job EXEC statement**

## Explanation

Parameters are required that must be supplied using the PARM parameter of the job EXEC statement.

## System action

Processing is stopped immediately.

## User response

Supply the required parameters in the job EXEC statement and retry.

---

**FPQ4706E The xxxxxxx parameter is invalid.**

## Explanation

The parameter value supplied in the job PARM parameter is invalid.

## System action

Processing is stopped immediately.

## User response

Correct the required parameters in the job EXEC statement and retry.

---

**FPQ4710E The command xxxx is unknown**

## Explanation

Unrecognized command in SYSIN data.

## System action

Input checking continues, but no processing is performed.

## User response

Correct the input statement in the SYSIN data.

---

**FPQ4711E The parameter xxxx is unknown**

## Explanation

The named parameter is not valid for the current command.

## System action

Input checking continues, but no processing is performed.

## User response

Correct the input statement in the SYSIN data.

---

**FPQ4712E xxxxxxx parameter parentheses error**

## Explanation

Parameter values must be enclosed in parentheses.

## System action

Input checking continues, but no processing is performed.

## User response

Correct the input statement in the SYSIN data.

---

**FPQ4713E xxxxxxx parameter value length error**

## Explanation

Error in parameter value specification.

## System action

Input checking continues, but no processing is performed.

## User response

Correct the input statement in the SYSIN data.

<b>FPQ4714E</b>	<b>xxxxxxxx parameter value is invalid</b>	<b>User response</b> Correct the input statement in the SYSIN data.
<b>Explanation</b>	Error in parameter value specification.	<b>FPQ4718E</b> <b>The repository name CATALOG is reserved and cannot be used</b>
<b>System action</b>	Input checking continues, but no processing is performed.	<b>Explanation</b> The name CATALOG is used internally and cannot be used as a repository name.
<b>User response</b>	Correct the input statement in the SYSIN data.	<b>System action</b> Input checking continues, but no processing is performed.
<b>FPQ4715E</b>	<b>Too many values specified for parameter xxxxxx</b>	<b>User response</b> Choose another repository name and retry.
<b>Explanation</b>	Parameter specification error.	<b>FPQ4719E</b> <b>Specify either STATUS or a repository name</b>
<b>System action</b>	Input checking continues, but no processing is performed.	<b>Explanation</b> Cannot specify both STATUS and a repository name.
<b>User response</b>	Correct the input statement in the SYSIN data.	<b>System action</b> Input checking continues, but no processing is performed.
<b>FPQ4716E</b>	<b>xxxxxxxx parameter requires a value</b>	<b>User response</b> If you require a list of the status of all repositories specify STATUS only. If you require the details of a single repository, specify the repository name only.
<b>Explanation</b>	Parameter requires a value.	<b>FPQ4720E</b> <b>Parameter xxxx already specified</b>
<b>System action</b>	Input checking continues, but no processing is performed.	<b>Explanation</b> Only one occurrence of the named parameter is allowed for the command.
<b>User response</b>	Correct the input statement in the SYSIN data.	<b>System action</b> Input checking continues, but no processing is performed.
<b>FPQ4717E</b>	<b>The parameter xxxxxx is required</b>	<b>User response</b> Correct the input statement in the SYSIN data and resubmit job.
<b>Explanation</b>	The named parameter is required for the current command.	<b>FPQ4721E</b> <b>The CATALOG uses one or more of the VSAM data sets specified</b>
<b>System action</b>	Input checking continues, but no processing is performed.	

## Explanation

Specifying the catalog VSAM data sets for a user repository is not allowed.

## System action

Input checking continues, but no processing is performed.

## User response

Correct the input statement in the SYSIN data and resubmit job. Refer to the FPQ configuration parameter member to see which data sets are in use by the catalog.

---

### FPQ4730E Cannot connect to the CATALOG

## Explanation

An attempt to connect to the CATALOG failed. The reason why is described in the message following FPQ4730.

## System action

No processing is performed.

## User response

Check the message following FPQ4730, correct problem, and retry.

---

### FPQ4731E Repository xxxxxxxx already defined in the catalog

## Explanation

An attempt was made to ADD a repository to the catalog, but a repository of the same name already exists.

## System action

Processing stopped.

## User response

Choose a unique repository name and retry.

---

### FPQ4732W Repository xxxxxxxx does not exist in the catalog

## Explanation

An attempt was made to DELETE a repository from the catalog, but it does not exist in the catalog.

## System action

Warning only. Processing continues.

## User response

None.

---

### FPQ4733W Repository xxxxxxxx is already started

## Explanation

An attempt was made to change the repository state to started, but the repository is already in the started state.

## System action

Warning only. Processing continues.

## User response

None.

---

### FPQ4734W Repository xxxxxxxx is already stopped

## Explanation

An attempt was made to change the repository state to stopped, but the repository is already in a stopped state.

## System action

Warning only. Processing continues.

## User response

None.

---

### FPQ4735E Repository xxxxxxxx is not in stopped status

## Explanation

A repository must be in stopped status before you can update or delete it.

## System action

Processing stopped.

## User response

Issue a stop request against the repository. Check the server message log for the stop completed message.

---

### FPQ4736I The catalog is empty

## Explanation

There are no repositories defined in the catalog.

## System action

None.

## User response

None. This message is informational.

---

<b>FPQ4737I</b>	<b>The repository START STOP request has been scheduled successfully</b>
-----------------	--

## Explanation

The repository request (START or STOP) was scheduled successfully.

## System action

Processing continues.

## User response

None. This message is informational.

---

<b>FPQ4739W</b>	<b>Repository <i>repository-name</i> is not state, processing continues</b>
-----------------	---

## Explanation

A repository START or STOP request has not completed successfully within the MAXWAIT time, and the CONTINUE processing option has been specified.

State values are STARTED or OPEN, CLOSED or STOPPED.

The OPEN state is checked on START if AUTOOPEN=YES.

The CLOSED state occurs after the STOPPED state, and must be reached to release the repository resources.

## System action

Processing continues.

## User response

Use the List Repositories administration panel to display the repository information and check its current state. Check the server message log for error messages. If necessary, increase the MAXWAIT time.

---

<b>FPQ4740W</b>	<b>Repository <i>repository-name</i> is not state, processing aborted</b>
-----------------	---

## Explanation

A repository START or STOP request has not completed successfully within the MAXWAIT time, and the ABORT processing option has been specified.

State values are STARTED or OPEN, CLOSED or STOPPED.

The OPEN state is checked on START if AUTOOPEN=YES.

The CLOSED state occurs after the STOPPED state, and must be reached to release the repository resources.

## System action

Processing stops.

## User response

Use the List Repositories administration panel to display the repository information and check its current state. Check the server message log for error messages. If necessary, increase the MAXWAIT time, or change the processing option from ABORT to CONTINUE.

---

<b>FPQ4741W</b>	<b><i>repository_name</i> repository not found</b>
-----------------	--

## Explanation

The server could not find the repository *repository\_name*.

## System action

Processing continues.

## User response

Make sure that the repository name that you provided is correct. Check the server message log for error messages.

---

<b>FPQ4750I</b>	<b>xxxxxxxx command processed successfully</b>
-----------------	--

## Explanation

Statement processed successfully.

## System action

None.

## User response

None. This message is informational.

---

<b>FPQ4751E</b>	<b>xxxxxx command not processed due to previous errors</b>
-----------------	--

### Explanation

A previous command has received an error. No more processing is performed.

### System action

Processing stopped at the point of error.

### User response

Locate the command in error by checking previous messages. Correct the errors and resubmit the JCL statements from this point forward.

---

<b>FPQ4752E</b>	<b>No processing performed due to previous errors</b>
-----------------	---

### Explanation

Syntax checking of the SYSIN input found errors. No processing of any command took place.

### System action

No processing is performed.

### User response

Check previous errors and correct the SYSIN data.

---

<b>FPQ4753I</b>	<b><i>command_name</i> command processing completed with warnings</b>
-----------------	---

### Explanation

The command processing completed with warnings.

In the message text:

***command\_name***

Indicates the name of the command.

### System action

Processing continues.

### User response

Locate the command with warnings by checking previous messages. If warnings are significant, correct the errors and resubmit JCL statements from this point onwards.

---

<b>FPQ4999E</b>	<b>Message xxxxxxx cannot be formatted, reason code xxxx</b>
-----------------	--

### Explanation

There is an error with the batch message formatter.

### System action

Processing stopped.

### User response

Contact IBM Software Support.



---

## Chapter 18. HKT return and reason codes (repositories)

This reference section provides detailed information about the return and reason codes issued by the IMS Tools Knowledge Base repositories.

Errors not listed in this table are internal errors and should be reported to IBM Software Support.

*Table 32. Return and reason codes reported by IMS Tools*

<b>Return code</b>	<b>Reason code</b>	<b>Message text</b>
4 (04)	27 (1B)	HKT2300E No RECON entries in the registry
28 (1C)	12 (0C)	HKT2301E Unable to connect – incorrect server name
32 (20)	01 (01)	HKT2302E Insufficient access authority to repository
4 (04)	38 (26)	HKT2303E Report defined as RECORD=N
8 (08)	105 (69)	HKT2304E RECON not found
12 (0C)	37 (25)	HKT2305E Product not defined
12 (0C)	40 (28)	HKT2306E Report not defined
12 (0C)	76 (4C)	HKT2307E Product not defined to record reports
12(0C)	42(02a)	HKT2309E Connection to I/O repository failed



# Chapter 19. HKT error messages (import and export utility)

This reference section provides detailed information about the error messages issued by the IMS Tools Knowledge Base import and export utility.

## Message format

IMS Tools Knowledge Base import and export utility messages adhere to the following format:

HKTnnnnxx

where:

**HKT**

Indicates that the message was issued by IMS Tools Knowledge Base import and export utility

**nnnn**

Indicates the message identification number

**x**

Indicates the severity of the message:

**A**

Indicates that operator intervention is required before processing can continue.

**E**

Indicates that an error occurred, which might or might not require operator intervention.

**I**

Indicates that the message is informational only.

**W**

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

### Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

### System action:

The System action section explains what the system will do in response to the event that triggered this message.

### User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

## Explanation of message text components

Example message output:

LOCID=ddd RC=12 RSN=001 R0=F0C9xx01 : INVALID KEYWORD

### LOCID=ddd

LOCID indicates the internal location, in decimal format, where the message originated.

This information is useful for debugging the source code and might not be useful to the end-user.

### RC

The return code value in hexadecimal format.

This information is appropriate for an end-user submitting a JCL job.

#### **RSN**

The reason code value in hexadecimal format.

This information is appropriate for an end-user submitting a JCL job.

#### **R0=mmmmxxrr**

R0 displays the value that is in the 32-bit register zero when the process returns.

This information is appropriate for a programmer who is internally invoking the import export utility.

#### **mmmm**

The internal identification of the module, in hexadecimal format, that issues the error (either x'FOC9' or x'F1C9').

#### **xx**

The hexadecimal value of the location identifier.

This value is the hexadecimal equivalent to *ddd* (which is in decimal format).

#### **rr**

The hexadecimal value of the reason code.

<b>HKT0001E</b>	<b>LOCID=ddd RC=0C RSN=01</b> <b>R0=FOC9xx01 : INVALID OR</b> <b>UNDEFINED KEYWORD ENTERED</b>
-----------------	--

### **Explanation**

The user specified an invalid keyword in the input stream. This includes AUDIT types.

### **System action**

The program terminates processing and returns the error code.

### **User response**

Most likely a keyword was misspelled. Check how far the output report has proceeded. It may provide a clue as to which keyword was misspelled.

<b>HKT0002E</b>	<b>LOCID=ddd RC=0C RSN=02</b> <b>R0=FOC9xx02 : INPUT</b> <b>SPECIFICATION ONLY ALLOWED</b> <b>IN PRIMARY INPUT</b>
-----------------	---

### **Explanation**

A keyword was specified in the SYSIN type file (secondary input) that is only allowed in the primary input (that is, the input parameter list). The list of keywords are: INPUT, LOGFILE, MAXRECORDS and SUPPRESS\_COMMENT.

### **System action**

The program terminates processing and returns the error code.

### **User response**

Check to make sure that none of the keywords listed in the Explanation section are specified in the secondary input. If you want to use any of them, they must be specified in the primary input parameter list.

<b>HKT0003E</b>	<b>LOCID=ddd RC=0C RSN=03</b> <b>R0=FOC9xx03 : PRINT</b> <b>SPECIFICATION ONLY ALLOWED</b> <b>IN PRIMARY INPUT</b>
-----------------	---

### **Explanation**

This message is similar to HKT0002E, except that it refers to the specific keyword: PRINT.

### **System action**

The program terminates processing and returns the error code.

### **User response**

Check to make sure that the PRINT keyword is not specified in the secondary input. If you wish to use the PRINT keyword, it must be specified in the primary input parameter list.

<b>HKT0004E</b>	<b>LOCID=ddd RC=10 RSN=04</b> <b>R0=FOC9xx04 : THE PRINT</b> <b>DDNAME IS MISSING</b>
-----------------	---

### **Explanation**

The print file (either the default name of SYSPRINT or an overriding print file name) is missing from the JCL file stream.

## System action

The program terminates processing and returns the error code.

Prior to setting the PRINT file output, the output is queued up in a dynamically allocated SYSOUT= \* file. Each record or message is printed in a dump format style. The file will have a DDNAME of SYSnnnn, where nnnn is an integer.

## User response

Verify that the DDNAME for the output print file is in the JCL. If the default file is being used, then it is SYSPRINT; otherwise, it will be what is specified by the PRINT keyword.

---

**HKT0005E**      **LOCID=ddd RC=10 RSN=05**  
                 **R0=FOC9xx05 : ITKB REPORT**  
                 **OPEN FAILED**

## Explanation

The print file could not be opened.

## System action

The program terminates processing and returns the error code.

## User response

Verify that the attributes for the print file are compatible. The print file must be defined as a sequential data set with RECFM=FBA, LRECL=133.

---

**HKT0006E**      **LOCID=ddd RC=08 RSN=06**  
                 **R0=FOC9xx06 : THE GROUP IS**  
                 **NOT SPECIFIED**

## Explanation

The GROUP or XCF server where the targeted repository resides must be specified.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that the GROUP name is specified in the input stream.

---

**HKT0007E**      **LOCID=ddd RC=08 RSN=07**  
                 **R0=FOC9xx07 : THE REPOSITORY**  
                 **IS NOT SPECIFIED**

## Explanation

The repository name for import or export must be specified.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that the REPOSITORY or the PROJECT name identifying the repository is specified.

---

**HKT0008E**      **LOCID=ddd RC=0C RSN=08**  
                 **R0=FOC9xx08 : THE EXPORT OR**  
                 **IMPORT DATASET DOES NOT**  
                 **EXIST**

## Explanation

The repository name for import or export must be specified.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that the REPOSITORY or the PROJECT name identifying the repository is specified.

---

**HKT0009E**      **LOCID=ddd RC=0C RSN=09**  
                 **R0=FOC9xx09 : BOTH IMPORT**  
                 **AND EXPORT FUNCTIONS**  
                 **SPECIFIED**

## Explanation

Both the IMPORT and EXPORT keywords are specified in the input stream.

## System action

The program terminates processing and returns the error code.

## User response

The IMPORT and EXPORT keywords are mutually exclusive. Make sure that the input stream only contains references to one or the other (not both).

---

**HKT0015E**      **LOCID=ddd RC=04 RSN=0F**  
                 **R0=FOC9xx0F : SCAN ONLY**  
                 **REQUESTED**

## Explanation

This is an indication that the user only want the input stream to be scanned for correctness.

## System action

This is informational (not an error). Once the scanning of the commands is completed, the program returns with the affiliated return and reason code.

## User response

The user can govern the scanning option using the SCAN keyword.

<b>HKT0016E</b>	<b>LOCID=ddd RC=08 RSN=10 R0=FOC9xx10 : INVALID HISTORY VALUE</b>
-----------------	---

## Explanation

During phase #2 of processing the value for the HISTORY keyword was found to be invalid.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that value for the HISTORY keyword is either YES, NO or *implied*.

This error may be detected in phase #1 with a reason code of 47 (decimal).

<b>HKT0017E</b>	<b>LOCID=ddd RC=08 RSN=11 R0=FOC9xx11 : THE COMMIT VALUE SPECIFIED IS INVALID</b>
-----------------	---

## Explanation

During phase #2 of processing the value for the COMMIT keyword was found to be invalid.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that value for the COMMIT keyword is either YES, NO, IGNORE or *implied*.

This error may be detected in phase #1 with a reason code of 47 (decimal).

<b>HKT0018E</b>	<b>LOCID=ddd RC=08 RSN=12 R0=FOC9xx12 : THE DELETE VALUE SPECIFIED IS INVALID</b>
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## Explanation

During phase #2 of processing the value for the DELETE keyword was found to be invalid.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that value for the DELETE keyword is either YES, NO, CONDITIONAL or *implied*.

This error may be detected in phase #1 with a reason code of 47 (decimal).

<b>HKT0019E</b>	<b>LOCID=ddd RC=08 RSN=13 R0=FOC9xx13 : THE SKIP VALUE SPECIFIED IS INVALID</b>
-----------------	---

## Explanation

During phase #2 of processing the value for the SKIP keyword was found to be invalid.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that value for the SKIP keyword is either YES, NO, or *implied*.

This error may be detected in phase #1 with a reason code of 47 (decimal).

<b>HKT0020E</b>	<b>LOCID=ddd RC=08 RSN=14 R0=FOC9xx14 : THE SCAN VALUE SPECIFIED IS INVALID</b>
-----------------	---

## Explanation

During phase #2 of processing the value for the SCAN keyword was found to be invalid.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that value for the SCAN keyword is either YES, NO, or *implied*.

This error may be detected in phase #1 with a reason code of 47 (decimal).

---

**HKT0021E**    **LOCID=ddd RC=08 RSN=15**  
**R0=FOC9xx15 : THE GROUP VALUE**  
**SPECIFIED IS INVALID**

## Explanation

During phase #2 of processing the value for the GROUP name was found to begin with a non-printable character.

## System action

The program terminates processing and returns the error code.

## User response

This can occur if a GROUP is specified without a value. Make sure the GROUP=group name is specified. This is only syntax checking. It does not guarantee that it is an actual (nor correct) GROUP name value.

---

**HKT0022E**    **LOCID=ddd RC=08 RSN=16**  
**R0=FOC9xx16 : THE REPOSITORY**  
**VALUE SPECIFIED IS INVALID**

## Explanation

During phase #2 of processing the value for the REPOSITORY name was found to begin with a non-printable character.

## System action

The program terminates processing and returns the error code.

## User response

This can occur if a REPOSITORY is specified without a value. Make sure the REPOSITORY=repository name is specified. This is only syntax checking. It does not guarantee that it is an actual (nor correct) repository name value.

---

**HKT0023E**    **LOCID=ddd RC=08 RSN=17**  
**R0=FOC9xx17 : AN INVALID**  
**MAXIMUM RECORD SIZE**  
**SPECIFIED**

## Explanation

The value supplied by MAXRECORDS is invalid. The value may contain invalid numeric syntax or a negative value.

## System action

The program terminates processing and returns the error code.

## User response

Check the value specified by MAXRECORDS for correctness.

**Note:** The value specified does not check for storage range. It may be larger than the available storage.

---

**HKT0024E**    **LOCID=ddd RC=0C RSN=18**  
**R0=FOC9xx18 : AN INPUT RECORD**  
**STORAGE OVERFLOW**

## Explanation

Input from the file (SYSIN-type) overflowed the input buffer.

## System action

The program terminates processing and returns the error code.

## User response

Increase the size of the input buffer by using the MAXRECORDS keyword and rerun.

**Note:** By default, the maximum number of records is 1000, which should be easily enough for all conditions. If this number is not large enough, the user should reevaluate the commands inputted.

---

**HKT0025E**    **LOCID=ddd RC=08 RSN=19**  
**R0=FOC9xx19 : THE PROJECT**  
**SPECIFIED WAS NOT FOUND**

## Explanation

The PROJECT name specified was not registered to the import/export facility.

## System action

The program terminates processing and returns the error code.

## User response

Check the spelling of the PROJECT name supplied. Use the LIST option to list all projects defined to validate.

<b>HKT0026E</b>	<b>LOCID=ddd RC=10 RSN=1A R0=FOC9xx1A : THE PROJECT ENVIRONMENT IS CORRUPT</b>
-----------------	--

## Explanation

The PROJECT value accessed by the PROJECT name is corrupt.

## System action

The program terminates processing and returns the error code.

## User response

If you are using the EXTENTS\_MODULE option, make sure you are accessing a valid module with PROJECT definitions. If you are using the default, then this is an administration problem.

<b>HKT0027E</b>	<b>LOCID=ddd RC=0C RSN=1B R0=FOC9xx1B : THE FIELD SPECIFIED IS NOT FOUND</b>
-----------------	--

## Explanation

The name of a FIELD in a FIELD statement was not found.

## System action

The program terminates processing and returns the error code.

## User response

Check the spelling. If you are using the PROJECT keyword, make sure that the name corresponds to either a project FIELD name or one of the built-in FIELD names (for example, MEMBER). If a PROJECT has not been specified, then make sure that is a built-in FIELD name.

The LIST option can be used to verify FIELD names.

<b>HKT0028E</b>	<b>LOCID=ddd RC=0C RSN=1C R0=FOC9xx1C : THE VALUE IS NOT SPECIFIED</b>
-----------------	--

## Explanation

The value supplied by a FIELD statement is invalid to the type.

## System action

The program terminates processing and returns the error code.

## User response

Check to make sure that the value supplied is correct for the syntax of the FIELD. For example, if a numeric value is the value of FIELD, a non-numeric value will trigger this error.

<b>HKT0029E</b>	<b>LOCID=ddd RC=08 RSN=1D R0=FOC9xx1D : AN INVALID MAXIMUM DATA SIZE SPECIFIED</b>
-----------------	--

## Explanation

The specification for MAXDATASIZE has an invalid numeric syntax.

## System action

The program terminates processing and returns the error code.

## User response

Check the MAXDATASIZE specified value for a correct binary value.

<b>HKT0030E</b>	<b>LOCID=ddd RC=0C RSN=1E R0=FOC9xx1E : AN INVALID INPUT TYPE SPECIFIED</b>
-----------------	---

## Explanation

The input type of a value is incompatible with the FIELD type definition. The name of the FIELD governs what type of input value is allowed. For example, a RECON type might be an internal, external or a RECON data set; however, it cannot be a string, pattern, and so on.

## System action

The program terminates processing and returns the error code.

## User response

Check the FIELD name to see what type is allowed. Either change to another FIELD name that is compatible or change the value and value type to be compatible with the current FIELD name.

<b>HKT0031E</b>	<b>LOCID=ddd RC=0C RSN=1F R0=FOC9xx1F : AN INPUT FIELD LENGTH SPECIFIED IS INVALID</b>
-----------------	--

## Explanation

The length specified for an input value is invalid. This can be a negative length.

## System action

The program terminates processing and returns the error code.

## User response

Check the LENGTH of the FIELD specification to see that the result is in the valid range of the FIELD.

<b>HKT0032E</b>	<b>LOCID=ddd RC=0C RSN=20 R0=FOC9xx20 : AN INVALID CONVERSION CONDITION WAS DETECTED</b>
-----------------	--

## Explanation

An input data value of a FIELD is incompatible with the type specified for the value. For example, an input value that is specified as hex has a non-hex digit or a numeric value that violates a numeric syntax.

## System action

The program terminates processing and returns the error code.

## User response

Make sure the value of the FIELD has a compatible syntax for the given type. Either change to another FIELD definition or modify the value to be consistent.

<b>HKT0034E</b>	<b>LOCID=ddd RC=0C RSN=22 R0=FOC9xx22 : INVALID RECON SPECIFICATION</b>
-----------------	---

## Explanation

An input value of type RECON is invalid. Specified RECON values are validated against the RECON definition repository. This is true even if there is no conversion of the RECON type. A specified RECON value must be a valid defined RECON image.

## System action

The program terminates processing and returns the error code.

## User response

Check the RECON value supplied to a FIELD of type RECON being specified. Also, if necessary, check to be

sure that the import/export facility has access to the RECON definitions repository (HKT\_INPUT).

<b>HKT0035E</b>	<b>LOCID=ddd RC=0C RSN=23 R0=FOC9xx23 : AN INVALID FIELD DIMENSION, POSITION, OR LENGTH OVERRIDE SPECIFIED</b>
-----------------	--

## Explanation

The position and length specified for an input value is invalid.

## System action

The program terminates processing and returns the error code.

## User response

Check the POSITION and LENGTH values for a specified FIELD to see that the resulting value is in range of the FIELD data.

This is similar to the HKT0031E message.

<b>HKT0036E</b>	<b>LOCID=ddd RC=0C RSN=24 R0=FOC9xx24 : AN INVALID MIXED STRING SPECIFIED</b>
-----------------	---

## Explanation

An input FIELD value of type string has an invalid specified MIXED string value. This likely due to an invalid escape value being specified. This is similar to a conversion condition.

## System action

The program terminates processing and returns the error code.

## User response

Check MIXED strings for valid values, especially with escape sequences. This include MIXED strings where the escape sequence is fully defined. For example, a hex specification has both hex digits specified.

<b>HKT0040E</b>	<b>LOCID=ddd RC=0C RSN=28 R0=FOC9xx28 : AN INVALID LIST OPTION SPECIFIED</b>
-----------------	--

## Explanation

An invalid LIST option has been specified. The valid values are YES, NO, ONLY or *implied*.

## System action

The program terminates processing and returns the error code.

## User response

Check the LIST to see that the LIST option specified is valid.

---

**HKT0041E**    **LOCID=ddd RC=0C RSN=29**  
**R0=FOC9xx29 : AN INVALID FIELD**  
**CHARACTER SPECIFIED**

## Explanation

A character in a STRING value has an invalid non-printable *whitespace* character. This can happen if the input was supplied by an editable file.

## System action

The program terminates processing and returns the error code.

## User response

If a non-printable character is required, consider entering the STRING as either a HEX or a MIXED type.

---

**HKT0042E**    **LOCID=ddd RC=0C RSN=2A**  
**R0=FOC9xx2A : AN INVALID**  
**AUDIT OPTION SPECIFIED**

## Explanation

The AUDIT specification for a data set name of a FIELD is undefined. Valid data set AUDIT types are: SEQUENTIAL, PARTITIONED, and GENERATION.

## System action

The program terminates processing and returns the error code.

## User response

Make sure all AUDIT types in a FIELD for a data set are valid.

---

**HKT0043I**    **LOCID=ddd RC=04 RSN=2B**  
**R0=FOC9xx2B : LIST ONLY**  
**REQUESTED**

## Explanation

This is an informational message to indicate the LIST=ONLY processing is being invoked.

## System action

The program continues processing.

## User response

None. This message is informational.

---

**HKT0044E**    **LOCID=ddd RC=0C RSN=2C**  
**R0=FOC9xx2C : UNABLE TO**  
**LOAD MODULE WITH EXTENDED**  
**DEFINITIONS**

## Explanation

The module containing extended FIELD definitions cannot be loaded. This can be the default module (HKTIMEX2) or an overriding module specified by the EXTENTS\_MODULE option.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that the required extents module is defined and loadable in the JCL STEPLIB.

---

**HKT0045E**    **LOCID=ddd RC=0C RSN=2D**  
**R0=FOC9xx2D : INVALID**  
**SUPPRESS COMMENT**

## Explanation

The SUPPRESS\_COMMENT option has an invalid integer mask definition. The valid values are:

- 0 = no suppression
- 1 = first character asterisk
- 2 = double slashes
- 3 = both (1) and (2)

## System action

The program terminates processing and returns the error code.

## User response

Check the SUPPRESS\_COMMENT keyword for a valid integer SUPPRESS\_COMMENT mask.

---

**HKT0046I**    **LOCID=ddd RC=04 RSN=2E**  
**R0=FOC9xx2E : INPUT FILE HAS**  
**BEEN BLOCKED**

## Explanation

This is an informational message to indicate the input (SYSIN-type) file will be blocked from processing. This would be similar to treating the secondary input as a // DD DUMMY type file.

The input file can be blocked by use of the prefixed \_BLKI=YES option.

## System action

The program continues processing.

## User response

None. This message is informational.

---

**HKT0047E      LOCID=ddd RC=08 RSN=2F  
R0=F1C9xx2F : INVALID VALUE  
SPECIFIED**

## Explanation

An invalid option has been specified for COMMIT, DELETE, HISTORY, ISEMPY, MEMPRINT, NOEXIST, SCAN, SKIP, or TRY options during phase #1 of parsing.

## System action

The program terminates processing and returns the error code.

## User response

Check the values specified for one of the affiliated keywords.

This error message may supersede the error message for each of the specific option's error messages.

---

**HKT1201E      LOCID=ddd RC=10 RSN=01  
R0=F1C9xx01 : UNABLE TO OPEN  
THE REPORT FILE**

## Explanation

Access to the REPORT file during stage #2 failed. This error may be preempted for another error issued during stage #1.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that the REPORT file (SYSPRINT-type) is well defined in JCL.

---

**HKT1202E      LOCID=ddd RC=0C RSN=02  
R0=F1C9xx02 : THE GROUP NAME  
IS MISSING**

## Explanation

The chosen XCF GROUP name is missing during stage #2. This error may be preempted for another error issued during stage #1.

## System action

The program terminates processing and returns the error code.

## User response

Be sure the valid GROUP name is supplied for the accessed repository.

---

**HKT1203E      LOCID=ddd RC=0C RSN=03  
R0=F1C9xx03 : THE REPOSITORY  
IS MISSING**

## Explanation

The repository name is missing in stage #2. This error may be preempted for another error issued during stage #1.

## System action

The program terminates processing and returns the error code.

## User response

Be sure the repository to be accessed is defined in the input stream, either through the REPOSITORY or PROJECT specification.

---

**HKT1204E      LOCID=ddd RC=0C RSN=04  
R0=F1C9xx04 : THE REPOSITORY  
CONNECTION FAILED**

## Explanation

The connection to the specified repository on the specified server failed.

## System action

The program terminates processing and returns the error code.

## User response

This can occur for a number of reasons. Check to see that the correct server and the correct repository is specified. Check to see if the requested (XCF) server has been activated. Check the log file for a connection error to the repository. Contact the server/repository administrator.

---

**HKT1205E**    **LOCID=ddd RC=0C RSN=05**  
**R0=F1C9xx05 : AN INVALID**  
**FUNCTION IS SPECIFIED**

## Explanation

The lower level stage #2 function to be processed is invalid.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that either IMPORT or EXPORT has been specified. This may be an internal issue. Contact the administrator.

---

**HKT1206E**    **LOCID=ddd RC=0C RSN=06**  
**R0=F1C9xx06 : AN INVALID**  
**HISTORY SETTING IS SPECIFIED**

## Explanation

The HISTORY setting is invalid for stage #2. This error may be preempted for another error issued during stage #1.

## System action

The program terminates processing and returns the error code.

## User response

Be sure the HISTORY in the input stream is valid.

---

**HKT1207E**    **LOCID=ddd RC=0C RSN=07**  
**R0=F1C9xx07 : THE UOW WAS**  
**NOT CREATED**

## Explanation

The import/export facility failed to create a unit-of-work (UOW) for processing the repository.

## System action

The program terminates processing and returns the error code.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1208E**    **LOCID=ddd RC=0C RSN=08**  
**R0=F1C9xx08 : THE GENERIC**  
**LOCK FAILED**

## Explanation

The import/export facility failed to create a GENERIC LOCK for processing the repository.

## System action

The program terminates processing and returns the error code.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1209E**    **LOCID=ddd RC=0C RSN=09**  
**R0=F1C9xx09 : THE EXPORT LIST**  
**FAILED**

## Explanation

The import/export facility failed to access the list of all members to export.

## System action

The program terminates processing and returns the error code.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1210I**    **LOCID=ddd RC=04 RSN=0A**  
**R0=F1C9xx0A : NO MEMBERS**  
**WERE FOUND TO EXPORT**

## Explanation

This is an informational/warning that the initial list of members to export is empty.

## System action

The program terminates processing and returns the error code.

## User response

It might be valid that there are no members. Otherwise, check the member specifications, including PRODUCT and TYPE, to see if they are correctly specified.

---

**HKT1211E**    **LOCID=ddd RC=0C RSN=0B**  
**R0=F1C9xx0B : UNABLE TO OPEN**  
**THE IMPORT/EXPORT FILE**

## Explanation

The import/export file for input (import) could not be opened.

## System action

The program terminates processing and returns the error code.

## User response

Make sure the file is correctly defined, especially the attributes as sequential (RECFM=VB and LRECL=256). Rerun the original job that populated the import/export file (IMEXFILE-type) and then run the import. If the problem persists, contact administration.

---

**HKT1212E**    **LOCID=ddd RC=10 RSN=0C**  
**R0=F1C9xx0C : AN INVALID**  
**RECORD READ**

## Explanation

The import/export file has read a corrupted record.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that the file was correctly built by a successful export of the import/export facility of a compatible version. Rerun the original job that populated the import/export file (IMEXFILE-type) and then run the import. If the problem persists, contact administration.

---

**HKT1213E**    **LOCID=ddd RC=0C RSN=0D**  
**R0=F1C9xx0D : AN UNKNOWN**  
**RECORD TYPE SPECIFIED**

## Explanation

The import/export file has read a record with an invalid record type. This is similar to HKT1212E.

## System action

The program terminates processing and returns the error code.

## User response

Be sure that the file was correctly built by a successful export of the import/export facility of a compatible version. Rerun the original job that populated the import/export file (IMEXFILE-type) and then run the import. If the problem persists, contact administration.

---

**HKT1214E**    **LOCID=ddd RC=0C RSN=0E**  
**R0=F1C9xx0E : AN INVALID**  
**RECORD STATE SPECIFIED**

## Explanation

The import/export file (IMEXFILE-type) has an invalid sequence or a missing COUNTS record.

## System action

The program terminates processing and returns the error code.

## User response

The most likely cause is that the import/export file was empty. There were no records produced by the original export for the current import. In this case, the best solution is to suppress the import step by using the JCL COND specification (for example, COND=(0,LT,export)).

Also be sure that the file was correctly built by a successful export of the import/export facility of a compatible version. Rerun the original job that populated the import/export file (IMEXFILE-type) and then run the import. If the problem persists, contact administration.

---

**HKT1215E**    **LOCID=ddd RC=0C RSN=0F**  
**R0=F1C9xx0F : THE REPOSITORY**  
**WRITE PROCESS FAILED**

## Explanation

Attempting to write a repository member (import) failed.

## System action

The program terminates processing and returns the error code.

## User response

This is likely an environmental problem. This includes, but is not limited to, no available space in the repository to write. If possible, obtain a log file of the problem and contact the administrator.

---

**HKT1216E**    **LOCID=ddd RC=04 RSN=10**  
**R0=F1C9xx10 : THERE ARE NO**  
**ENTRIES FOUND TO PROCESS**

## Explanation

This is an informational message. The import/export file (IMEXFILE-type) for import had no members to process. That is, the record count on the COUNTS record was zero.

## System action

The program continues processing.

## User response

Check the record criteria on the original export process.

---

**HKT1217E**    **LOCID=ddd RC=0C RSN=11**  
**R0=F1C9xx11 : AN INVALID**  
**VERIFY ONLY SPECIFIED**

## Explanation

The value for the COMMIT keyword during stage #2 is invalid. This error may be preempted for another error issued during stage #1.

## System action

The program terminates processing and returns the error code.

## User response

Check the COMMIT specification.

---

**HKT1218W**    **LOCID=ddd RC=04 RSN=12**  
**R0=F1C9xx12 : THERE ARE NO**  
**MEMBERS TO ACCESS**

## Explanation

This is an informational message. There are no members to access for the export.

## System action

The program continues processing.

## User response

Check the record criteria on the original export process.

---

**HKT1219E**    **LOCID=ddd RC=08 RSN=13**  
**R0=F1C9xx13 : THE ACCESS TO**  
**MEMBER FAILED**

## Explanation

Access to a repository member for export failed.

## System action

The program terminates processing and returns the error code.

## User response

This is likely an environmental problem. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1220I**    **LOCID=ddd RC=04 RSN=14**  
**R0=F1C9xx14 : THE MEMBER WAS**  
**REJECTED BECAUSE OF THE**  
**HISTORY**

## Explanation

This is an informational message. A specific member version of writing a member of the repository was rejected because HISTORY=NO was specified on the IMPORT.

## System action

The program continues processing.

## User response

None. This message is informational.

---

**HKT1221I**    **LOCID=ddd RC=04 RSN=15**  
**R0=F1C9xx15 : THE MEMBER WAS**  
**REJECTED BECAUSE OF THE**  
**PRODUCT**

## Explanation

This is an informational message. A specific member version of writing a member of the repository was rejected because the primary PRODUCT specified did not match what was requested.

## System action

The program continues processing.

## User response

None. This message is informational.

---

**HKT1222I**    **LOCID=ddd RC=04 RSN=16**  
**R0=F1C9xx16 : THE MEMBER WAS**  
**REJECTED BECAUSE OF THE TYPE**

## Explanation

This is an informational message. A specific member version of writing a member of the repository was rejected because the primary TYPE specified did not match what was requested.

## System action

The program continues processing.

## User response

None. This message is informational.

---

**HKT1223I**    **LOCID=ddd RC=04 RSN=17**  
**R0=F1C9xx17 : THE COMMIT**  
**WAS SUPPRESSED BY USER**  
**SPECIFICATION**

## Explanation

This is an informational message. User indicated via the COMMIT=NO for a normal execution, except that the target repository will not be updated. The user could test out processing commands without updating the repository.

## System action

The program continues processing.

## User response

When the user is satisfied that the input stream will produce the desired results, then COMMIT=NO can be changed to COMMIT=YES.

---

**HKT1224E**    **LOCID=ddd RC=0C RSN=18**  
**R0=F1C9xx18 : AN INVALID**  
**DELETE OPTION SPECIFIED**

## Explanation

A DELETE option specified in the input stream was neither YES, NO, CONDITIONAL nor *implied*.

## System action

The program terminates processing and returns the error code.

## User response

The user should check to be sure that any DELETE specification is using a valid DELETE option.

---

**HKT1225E**    **LOCID=ddd RC=0C RSN=19**  
**R0=F1C9xx19 : THE MEMBER**  
**DELETE FAILED**

## Explanation

Access to a repository member for export failed.

An attempt was made to delete a member, and the delete failed.

## System action

The program terminates processing and returns the error code.

## User response

This is likely an environmental problem. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1226E**    **LOCID=ddd RC=0C RSN=1A**  
**R0=F1C9xx1A : AN INVALID SKIP**  
**OPTION SPECIFIED**

## Explanation

The SKIP option had an illegal value. The only values allowed are YES, NO or *implied*.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that any SKIP specification has a correct value.

---

**HKT1228E**    **LOCID=ddd RC=0C RSN=1C**  
**R0=F1C9xx1C : AN INVALID**  
**COMPARE VECTOR SPECIFIED**

## Explanation

The internal compare vector table had zero entries in stage #2.

## System action

The program terminates processing and returns the error code.

## User response

This is an environmental problem. Try rerunning with a log file. If the problem persists, contact the administrator.

---

**HKT1230E**    **LOCID=ddd RC=0C RSN=1E**  
**R0=F1C9xx1E : AN INVALID**  
**UNSIGNED BINARY SPECIFIED**

## Explanation

An unsigned binary number was larger than the allowed maximum size.

## System action

The program terminates processing and returns the error code.

## User response

Check any FIELDS referencing unsigned binary numbers for values beyond 64-bits.

---

**HKT1231E**    **LOCID=ddd RC=0C RSN=1F**  
**R0=F1C9xx1F : AN INVALID**  
**SIGNED BINARY SPECIFIED**

## Explanation

A signed binary number was larger than the allowed maximum size.

## System action

The program terminates processing and returns the error code.

## User response

Check any FIELDS referencing signed binary numbers for values beyond 63-bits.

---

**HKT1232E**    **LOCID=ddd RC=0C RSN=20**  
**R0=F1C9xx20 : AN INVALID**  
**SIGNED PACKED SPECIFIED**

## Explanation

An unsigned packed number was larger than the allowed maximum size.

## System action

The program terminates processing and returns the error code.

## User response

Check any FIELDS referencing unsigned packed numbers for values beyond 16-bits/32-digits or for invalid decimal digits.

---

**HKT1233E**    **LOCID=ddd RC=0C RSN=21**  
**R0=F1C9xx21 : AN INVALID**  
**OPERATOR SPECIFIED**

## Explanation

A comparison operator was specified in a FIELD.

## System action

The program terminates processing and returns the error code.

## User response

Check the FIELDS to see that all specified explicit operations are correct.

---

**HKT1240E**    **LOCID=ddd RC=0C RSN=28**  
**R0=F1C9xx28 : AN INVALID**  
**ISEMPTY OPTION SPECIFIED**

## Explanation

Access to the repository member list failed for a reason other than a "no members found" condition.

## System action

The program terminates processing and returns the error code.

## User response

This is likely an environmental problem. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1241E**    **LOCID=ddd RC=08 RSN=29**  
**R0=F1C9xx29 : AN ISEMPTY**  
**VIOLATION OCCURRED**

## Explanation

At least one member was returned while issuing an ISEMPTY test.

## System action

The program terminates processing and returns the error code.

## User response

This result is legitimate. Processing should continue.

---

**HKT1242E**    **LOCID=ddd RC=0C RSN=2A**  
                 **R0=F1C9xx2A : AN INVALID**  
                 **NOEXIST OPTION SPECIFIED**

## Explanation

Access to a particular repository member failed for a reason other than the member was not found.

## System action

The program terminates processing and returns the error code.

## User response

This is likely an environmental problem. Rerun the job with a log file. If the problem persists, contact the administrator.

---

**HKT1243E**    **LOCID=ddd RC=08 RSN=2B**  
                 **R0=F1C9xx2B : A NOEXIST**  
                 **VIOLATION OCCURRED**

## Explanation

An imported member was already found in the target repository.

## System action

The program terminates processing and returns the error code.

## User response

This result is legitimate. Processing should continue.

---

**HKT1244E**    **LOCID=ddd RC=0C RSN=2C**  
                 **R0=F1C9xx2C : INVALID MEMBER**  
                 **PRINT OPTION**

## Explanation

The MEMPRINT Option supplied in the input stream was invalid.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that the supplied MEMPRINT option is either YES, NO, CONDITIONAL or *implied*.

---

**HKT1245E**    **LOCID=ddd RC=0C RSN=2D**  
                 **R0=F1C9xx2D : INVALID TRY**  
                 **OPTION**

## Explanation

The TRY Option supplied in the input stream was invalid.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that the supplied TRY option is either YES, NO or *implied*.

---

**HKT1246E**    **LOCID=ddd RC=0C RSN=2E**  
                 **R0=F1C9xx2E : BAD DEFINED**  
                 **UPDATE FIELD**

## Explanation

The target of a substitution value is smaller than the substitution value.

## System action

The program terminates processing and returns the error code.

## User response

Make sure that a substitution value does not overflow its target.



# Chapter 20. HKT error messages (repositories)

This reference section provides detailed information about the error messages issued by the IMS Tools Knowledge Base repositories.

**Note:** Tools Base Diagnostics Aid messages (HKT80xxx) are documented in *IMS Tools Base IMS Tools Common Services User's Guide and Reference*.

## Message format

IMS Tools Knowledge Base repository messages adhere to the following format:

HKTnnnnnx

where:

**HKT**

Indicates that the message was issued by IMS Tools Knowledge Base repositories

**nnnn**

Indicates the message identification number

**x**

Indicates the severity of the message:

**A**

Indicates that operator intervention is required before processing can continue.

**E**

Indicates that an error occurred, which might or might not require operator intervention.

**I**

Indicates that the message is informational only.

**W**

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

### Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

### System action:

The System action section explains what the system will do in response to the event that triggered this message.

### User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

**HKT2001I**      **HKTJIMPT ended with RC=xxxxxx**

### Explanation

If a single or multiple reports were being processed, the processing of each report could return a different return code value. This message will display the highest numeric value return code that was encountered during the execution.

### User response

None. Information message only.

**HKT2002I**      **The LOG DD failed to open; LOG=NO will be assumed.**

### Explanation

A HKTLOG DD statement might have been omitted from the HKTJIMPT job stream.

## User response

Ensure that a HKTLOG DD statement is in the HKTJIMPT job stream.

**HKT2003E** **No EXEC parameters found.  
ITKBSRVR parameter is required.**

## Explanation

The execution parameter has been omitted from the HKTJIMPT job stream.

## User response

Add the execution parameter that specifies the ITKBSRVR parameter.

**HKT2004I** **EXEC parameter specified - xxxxxx**

## Explanation

This message shows the execution parameter that was specified.

## User response

This message is displayed before an error message. Refer to the messages that follow.

**HKT2005E** **RECFM of REPORT DD is invalid for  
the ITKB repository.**

## Explanation

The file that was allocated to the REPORT DD does not have a RECFM of F or V.

## User response

Ensure that the file that was allocated to the REPORT DD has a RECFM of F (fixed) or V (variable).

**HKT2006E** **Unsuccessful parse of EXEC  
PARMS. Internal error.**

## Explanation

An internal error occurred in the parser.

## User response

Contact IBM Software Support.

**HKT2007E** **Errors found in EXEC parameters.**

## Explanation

Errors were found in the EXEC parameters.

## User response

This message is followed by message HKT2004I, which shows the EXEC parameters that were specified. A message that indicates the error will follow.

**HKT2008W** **The PRINT DD failed to open,  
PRINT=NO will be assumed.**

## Explanation

A PRINT DD statement might have been omitted from the HKTJIMPT job stream.

## User response

Ensure that a PRINT DD statement is in the HKTJIMPT job stream.

**HKT2009E** **Server name is required.**

## Explanation

An IMS Tools KB server name was not specified.

## User response

Ensure that the name of an active IMS Tools KB server is specified.

**HKT2010E** **Unsuccessful parse of SYSIN data.  
Internal error.**

## Explanation

An internal error occurred in the parser.

## User response

Contact IBM Software Support.

**HKT2011E** **Storage overflow for SYSIN data.**

## Explanation

An internal error occurred in the parser.

## User response

Contact IBM Software Support.

**HKT2012E** **Unable to connect to ITKB  
repository server.**

## Explanation

The specified IMS Tools KB server is not active.

## User response

Ensure that the name of an active IMS Tools KB server is specified. Check the job log for any additional messages.

---

<b>HKT2013E</b>	<b>Required parameter IMPORT not found. xxxxxx was found.</b>
-----------------	---

## Explanation

The required control statement verb IMPORT was not found. The character string that was found is displayed in the message.

## User response

Ensure that IMPORT is specified on the first control statement.

---

<b>HKT2014W</b>	<b>Report xxxxxx specified as RECORD=N. Report will not be written.</b>
-----------------	---

## Explanation

The report that was specified was registered in IMS Tools Knowledge Base as RECORD=N and therefore will not be written into the IMS Tools Knowledge Base repository.

## User response

None.

---

<b>HKT2015E</b>	<b>Invalid RECON type or value. Valid types are DSN, DDN, RCN, or NONE.</b>
-----------------	---

## Explanation

The value that was specified for the RECON parameter is not one of the allowed values.

## User response

Change the RECON parameter to one of the allowed values.

---

<b>HKT2016E</b>	<b>INDEX parameter specified without any sub-parameters. INDEX(nn).</b>
-----------------	---

## Explanation

An INDEX parameter was found without any sub-parameters.

## User response

Ensure that all INDEX parameters are specified with at least one subparameter. The INDEX(nn) value in the message lists the count of the index parameters in the input.

---

<b>HKT2017E</b>	<b>Group type/name must be specified together. INDEX(nn).</b>
-----------------	---

## Explanation

A GRPTYPE or GRPNAME parameter was found without the other. Both parameters must be present.

## User response

Ensure that both the GRPTYPE and GRPNAME parameters are specified. The INDEX(nn) value in the message lists the count of the index parameters in the input.

---

<b>HKT2018E</b>	<b>Invalid group type given. Types are CA or DBDS. INDEX(nn).</b>
-----------------	---

## Explanation

The value that was specified for the GRPTYPE parameter was not one of the allowed values.

## User response

Change the GRPTYPE value to one of the allowed values. The INDEX(nn) value in the message lists the count of the index parameters in the input.

---

<b>HKT2019E</b>	<b>Both PART and AREA are given. Only one can be specified. INDEX(nn).</b>
-----------------	--

## Explanation

Both the PART and AREA parameter were specified. Only one can be specified.

## User response

Ensure that only the PART or AREA parameter is specified. The INDEX(nn) value in the message lists the count of the index parameters in the input.

---

<b>HKT2020E</b>	<b>JOBNUMBER specifies too many digits, 7 maximum.</b>
-----------------	--

## Explanation

The JOBNUMBER value is limited to 7 digits maximum.

## User response

Ensure that the JOBNUMBER value is 7 digits or less.

<b>HKT2021E</b>	<b>USERID, JOBNAME, JOBNUM, JOB START must all be specified.</b>
-----------------	--

## Explanation

One of the following parameters was specified without the others: USERID, JOBNAME, JOBNUM, or JOBSTRT.

## User response

Ensure that USERID, JOBNAME, JOBNUM, and JOBSTRT are all specified.

<b>HKT2022E</b>	<b>JOB start date is greater than today's date or has an invalid format.</b>
-----------------	--

## Explanation

The specified JOBSTRT value is incorrect.

## User response

Ensure that the JOBSTRT value uses the correct syntax, *yyyy/mm/dd*, and that the date is not greater than today's date or before 2004/01/01.

<b>HKT2023E</b>	<b>STEP name and valid start date must both be specified.</b>
-----------------	---

## Explanation

A STEPNAME or STEPSTRT parameter was found without the other. Both parameters must be specified.

## User response

Ensure that both the STEPNAME and STEPSTRT parameters are specified.

<b>HKT2024E</b>	<b>STEP start date is greater than today's date or has an invalid format.</b>
-----------------	---

## Explanation

The specified STEPSTRT value is incorrect.

## User response

Ensure that the STEPSTRT value uses the correct syntax, *yyyy/mm/dd*, and that the date is not greater than today's date or before 2004/01/01.

<b>HKT2025E</b>	<b>REPORT start date is greater than today's date or has an invalid format.</b>
-----------------	---

## Explanation

The specified RPTSTRT value is incorrect.

## User response

Ensure that the RPTSTRT value uses the correct syntax, *yyyy/mm/dd*, and that the date is not greater than today's date or before 2004/01/01.

<b>HKT2026E</b>	<b>Report open failed. Verify that all parameters are valid.</b>
-----------------	--

## Explanation

The parameters specified to select a report do not correctly identify a report and have caused a failure when IMPORT attempts to open the nonexistent report.

## User response

Ensure that the specified parameters correctly identify a report.

<b>HKT2027E</b>	<b>Invalid OLRSET specified. Values are P, S, or U. INDEX(nn)</b>
-----------------	---

## Explanation

The value that was specified for the OLRSET parameter was not one of the allowed values.

## User response

Change the OLRSET value to one of the allowed values. The INDEX(nn) value in the message lists the count of the index parameters in the input.

<b>HKT2028E</b>	<b>Product xx not defined.</b>
-----------------	--------------------------------

## Explanation

The value that was specified for the PRODUCTID parameter was not defined.

## User response

Ensure that the product has been registered with the IMS Tools KB server.

<b>HKT2029E</b>	<b>Report xx not defined.</b>
-----------------	-------------------------------

## Explanation

The value that was specified for the REPORTID parameter was not defined.

## User response

Ensure that the report has been registered with the IMS Tools KB server.

<b>HKT2030W</b>	<b>Second RECON parameter not required with RCN or NONE.</b>
-----------------	--

## Explanation

A second parameter was found that is not required.

## User response

The second parameter will be ignored.

<b>HKT2031E</b>	<b>Verify that the RECON data set name is defined as a RECON1 dsn.</b>
-----------------	--

## Explanation

A data set name that was specified with a DSN parameter was not found in the IMS Tools Knowledge Base repository.

## User response

Ensure that the data set name that was specified is defined as a RECON1 in the IMS Tools Knowledge Base repository.

<b>HKT2032E</b>	<b>Verify that the RECON DD name allocates a data set defined as a RECON1 dsn.</b>
-----------------	--

## Explanation

The data set that was allocated to the ddname that was specified with the DDN parameter was not found in the IMS Tools Knowledge Base repository.

## User response

Ensure that the data set name that was specified is defined as a RECON1 in the IMS Tools Knowledge Base repository.

<b>HKT2033E</b>	<b>Verify that RECON1, RECON2, and RECON3 DDs allocate a RECON1 dsn</b>
-----------------	---

## Explanation

The data set names that were allocated to the RECON1, RECON2, and RECON3 DDs cannot be found in the IMS Tools Knowledge Base repository.

## User response

Ensure that one of the data set names is defined as a RECON1 in the IMS Tools Knowledge Base repository.

<b>HKT2034E</b>	<b>Repository write error</b>
-----------------	-------------------------------

## Explanation

An error occurred while writing to the IMS Tools KB server.

## User response

Contact IBM Software Support.

<b>HKT2035W</b>	<b>Some report records were truncated while being written to the PRINT DD.</b>
-----------------	--

## Explanation

Some of the records in the REPORT DD were longer than allowed for SYSOUT.

## User response

Ensure that the record length of the REPORT DD file is 133 bytes or shorter.

<b>HKT2036W</b>	<b>The number of INDEXs exceeded 100. INDEXs after will be ignored</b>
-----------------	--

## Explanation

More than 100 INDEX parameters were found.

## User response

Ensure that no more than 100 index parameters are specified.

<b>HKT2037E</b>	<b>There are no RECON entries in the registry.</b>
-----------------	--

## Explanation

HKTJIMPT determined that no RECON entries are present in the IMS Tools Knowledge Base repository.

## User response

Notify the IMS Tools Knowledge Base administrator.

---

<b>HKT2038E</b>	<b>An INDEX parameter contains an invalid character.</b>
-----------------	--

### Explanation

An INDEX parameter contains an invalid character (\* or %).

### User response

Ensure that the INDEX parameters do not contain the \* or % character.

---

<b>HKT2039E</b>	<b>The xxxx parameter contains an invalid character.</b>
-----------------	--

### Explanation

The parameter contains an invalid character (\* or %).

### User response

Ensure that the parameter does not contain the \* or % character.

---

<b>HKT2050I</b>	<b>SYSIN records read nnnnnnnn REPORT records written nnnnnnn</b>
-----------------	---

### Explanation

The number of SYSIN records read and the number of REPORT records written to the IMS Tools KB server are displayed.

### User response

Informational message.

---

<b>HKT2061E</b>	<b>Unknown keyword - xxxx</b>
-----------------	-------------------------------

### Explanation

An unknown keyword was encountered in the input. The message contains the unknown keyword.

### User response

Change the unknown keyword to one of the keywords that are defined for HKTJIMPT.

---

<b>HKT2062E</b>	<b>Unknown positional parameter - xxxx</b>
-----------------	--

### Explanation

An unknown positional parameter was encountered in the input. The message contains the unknown parameter.

### User response

Change the unknown parameter to one of the parameters that are defined for HKTJIMPT.

---

<b>HKT2063E</b>	<b>Keyword missing sub-parameters - xxxx</b>
-----------------	--

### Explanation

A keyword was encountered without its required sub-parameters. The message contains the keyword parameter.

### User response

Ensure that the keyword is specified with all required parameters.

---

<b>HKT2064E</b>	<b>Input ended before all keywords processed.</b>
-----------------	---

### Explanation

HKTJIMPT found end-of-file before all of the specified keywords were processed.

### User response

Ensure that all keywords are correct.

---

<b>HKT2065E</b>	<b>Keyword found instead of value - xxxx</b>
-----------------	--

### Explanation

A keyword was encountered when a value was expected. The keyword is contained in the message.

### User response

Ensure that the correct parameter syntax is specified.

---

<b>HKT2066E</b>	<b>Number out of range - xxxx</b>
-----------------	-----------------------------------

### Explanation

A number was encountered that was out of the range allowed. The message contains the incorrect number.

### User response

Ensure that the number that was specified is within the allowable range.

---

<b>HKT2067E</b>	<b>Invalid number - xxxx</b>
-----------------	------------------------------

## Explanation

A number was encountered that contained non-decimal digits. The message contains the incorrect number.

## User response

Ensure that the number is correctly specified.

---

**HKT2068E Unknown keyword value - xxxxxx**

## Explanation

The value that was specified for the keyword is not one of the allowed values. The message contains the incorrect value.

## User response

Ensure that the value that was specified is one of the allowed values.

---

**HKT2069E Keyword parameter specified more than once - xxxxxx**

## Explanation

A keyword was encountered more than once in the input. The message contains the incorrect keyword.

## User response

Ensure that the keyword is specified the correct number of times.

---

**HKT2070E Required parameter was not found.**

## Explanation

One of the required parameters was not found.

## User response

Ensure that all required parameters are specified. This message will be accompanied by HKT2072I.

---

**HKT2071E Keyword value too long - xxxxxx**

## Explanation

The value that was specified for the keyword exceeds the maximum allowable length. The message contains the incorrect value.

## User response

Ensure that the value that was specified for the keyword is correct.

---

**HKT2072I Required parameters are IMPORT, PRODUCTID, REPORTID, RECON, INDEX.**

## Explanation

This message lists the required parameters for HKTJIMPT.

## User response

Informational message.

---

**HKT2100E Required short name not specified; PRODUCTID=xx**

## Explanation

A short name must be specified for a user product. User products must start with U, V, or W.

## User response

Add a unique SNAME parameter value and resubmit this request.

---

**HKT2101E Invalid RECORD specified; REPORTID=xx; PRODUCTID=xx**

## Explanation

The RECORD= parameter was specified on the ADDPROD command. The RECORD= parameter is not supported by the ADDPROD command.

## User response

Remove the RECORD= parameter from the ADDPROD command and resubmit the request.

---

**HKT2102E External table load requested failed; TABLENAME=xxxxxx**

## Explanation

The name that was specified with the TABLE= parameter could not be located in the library concatenation.

## User response

Verify that the name that was specified is the correct name and that the requested table is in the library concatenation. After correcting the error, resubmit the request.

---

**HKT2103E Invalid command specified; COMMAND=xxxxxx**

## Explanation

The first non-comment, non-blank string in a request set must be one of the recognized keyword commands. Recognized commands are LIST, ADDPROD, and ADDRPT.

## User response

Correct the input and resubmit the request.

---

<b>HKT2104E</b>	<b>Parsing error. Please verify your input.</b>
-----------------	---

## Explanation

This generic error identifies an unidentified parsing error. Most errors produce a more specific error message. Generally, additional information is included at the end of this message that can help identify the problem.

## User response

Inspect the input in SYSPRINT to attempt to identify the error. If the parser returns information, the message text will include this additional information.

---

<b>HKT2105E</b>	<b>Short name invalid; PRODUCTID=xx</b>
-----------------	---

## Explanation

The SNAME parameter was specified for a PRODUCTID that is not recognized as a user product. SNAME is applicable only for user products.

## User response

If this is a user product, the PRODUCTID must start with U, V, or W. If this is not a user product, remove the SNAME parameter.

---

<b>HKT2106E</b>	<b>Long name invalid; PRODUCTID=xx</b>
-----------------	--

## Explanation

The LNAME parameter was specified for a PRODUCTID that is not recognized as a user product. LNAME is applicable only for user products.

## User response

If this is a user product, the PRODUCTID must start with U, V, or W. If this is not a user product, remove the LNAME parameter.

---

<b>HKT2107E</b>	<b>Error encountered during end processing</b>
-----------------	--

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

---

<b>HKT2108E</b>	<b>Run terminated due to missing required execution parameter specifying server ID; ITKBSRVR=</b>
-----------------	---

## Explanation

The execution parameter that specifies the IMS Tools KB server is missing.

## User response

Ensure that the execution parameter that specifies the IMS Tools KB server is included.

---

<b>HKT2110E</b>	<b>Run terminated due to internal error; bad BPE startup</b>
-----------------	--

## Explanation

A bad return code was received from BPE during startup.

## User response

Contact IBM Software Support.

---

<b>HKT2111E</b>	<b>Run terminated due to internal error; GETMAIN for work area failed</b>
-----------------	---

## Explanation

A GETMAIN for a required work area failed. Processing terminates.

## User response

Increase the region size.

---

<b>HKT2112E</b>	<b>Run terminated due to SYSIN open failure</b>
-----------------	---

## Explanation

The SYSIN DD named data set failed to open properly. The requests for service are contained in the SYSIN data set. Processing terminates.

## User response

Determine why the data set failed to open, correct the problem, and resubmit the job.

<b>HKT2113E</b>	<b>Required RELEASE parameter is invalid; RELEASE=xxxxxx</b>
-----------------	--

### Explanation

For products that are loaded from the internal table, a non-blank numeric 6-character RELEASE must be specified. The first two characters of the parameter must not be 00.

### User response

Correct the RELEASE parameter and resubmit this request.

<b>HKT2114E</b>	<b>REPOSITORY cannot be specified with REPLACE=YES.</b>
-----------------	---

### Explanation

REPOSITORY and REPLACE=YES are mutually exclusive parameters.

### User response

Remove the REPOSITORY parameter to update a product. If you want to change the repository a product is stored in, the product must be deleted and redefined with the new repository.

<b>HKT2115E</b>	<b>RETENTION cannot be specified with REPLACE=YES.</b>
-----------------	--

### Explanation

RETENTION and REPLACE=YES are mutually exclusive parameters.

### User response

Remove the RETENTION parameter to update a product.

If you want to change the retention value for product reports, the product must be deleted and redefined with the new retention.

<b>HKT2117E</b>	<b>LIST function for all products with specific REPORTID invalid; REPORTID = xxxxxxx</b>
-----------------	--

### Explanation

A specific REPORTID was requested but no PRODUCTID was specified. This request type is not supported.

### User response

Specify either a specific PRODUCTID or LIST PRODUCTID=\*

<b>HKT2118E</b>	<b>REPORTID invalid with ADDPROD function</b>
-----------------	---

### Explanation

The REPORTID parameter was specified for an ADDPROD command. REPORTID is not a valid parameter with the ADDPROD command.

### User response

Remove the REPORTID parameter from the command statement.

<b>HKT2119E</b>	<b>HLQ specified is not valid HLQ; HLQ = xxxxxxx</b>
-----------------	--

### Explanation

The high-level qualifier that was specified does not conform the rules of a data set name qualifier.

### User response

Adjust the value to conform to data set naming rules.

<b>HKT2120E</b>	<b>Invalid PRODUCTID for this request; PRODUCTID=xx</b>
-----------------	---

### Explanation

An invalid PRODUCTID parameter value was detected for this request. The PRODUCTID parameter must use the character set A-Z,0-9,@#\$.

If this is an ADDRPT request, it must be for a PRODUCTID for a user product that starts with U, V, or W.

### User response

Correct the specified PRODUCTID parameter value and resubmit the request.

<b>HKT2121E</b>	<b>Long name already in use - must be unique; xxxxxxx</b>
-----------------	---

### Explanation

This long name (LNAME) is defined as the long name in another PRODUCTID.

### User response

Change the long name and resubmit the request.

<b>HKT2122E</b>	<b>Long title duplicate for product; xxxxxx</b>	If the size of the request seems unreasonable, contact IBM Software Support.
<b>Explanation</b>		
<p>The long title (LTITLE) must be unique for a product.</p>		
<b>User response</b>		
<p>Change the long title so that it is unique for the product.</p>		
<b>HKT2123E</b>	<b>Short name already in use - must be unique; xxxxxx</b>	
<b>Explanation</b>		
<p>This short name (SNAME) is defined as the short name for another PRODUCTID.</p>		
<b>User response</b>		
<p>Change the short name and resubmit the request.</p>		
<b>HKT2124E</b>	<b>Short title duplicate for product; xxxxxx</b>	
<b>Explanation</b>		
<p>This short title (STITLE) is already defined as the short title for this product.</p>		
<b>User response</b>		
<p>Change the short title and resubmit the request.</p>		
<b>HKT2125E</b>	<b>Internal error GET RECORD R15 = xxxxxx; RSN=xxxxxx</b>	
<b>Explanation</b>		
<p>An error occurred while processing a GET RECORD request.</p>		
<b>User response</b>		
<p>Contact IBM Software Support.</p>		
<b>HKT2126E</b>	<b>Internal error GETMAIN for container list; OUTSIZE=xxxxxx</b>	
<b>Explanation</b>		
<p>The utility was unable to obtain sufficient storage for a container list. The size requested is shown.</p>		
<b>User response</b>		
<p>If the size of the request seems reasonable, increase your region size and resubmit your request.</p>		
<b>HKT2127E</b>	<b>Internal error, bad return - container list sizing; R15=xxxxxx; RSN=xxxxxx</b>	
<b>Explanation</b>		
<p>This is an internal error.</p>		
<b>User response</b>		
<p>Contact IBM Software Support.</p>		
<b>HKT2128E</b>	<b>Internal error, bad return - container list; R15=xxxxxx; RSN=xxxxxx</b>	
<b>Explanation</b>		
<p>This is an internal error.</p>		
<b>User response</b>		
<p>Contact IBM Software Support.</p>		
<b>HKT2129E</b>	<b>Run terminated due to bad initialization call; R15 = xxxxxx; RSN = xxxxxx</b>	
<b>Explanation</b>		
<p>This is an internal error.</p>		
<b>User response</b>		
<p>Contact IBM Software Support.</p>		
<b>HKT2130E</b>	<b>Open failed for LIST output data set</b>	
<b>Explanation</b>		
<p>Open failed for the OUTRPT DD statement. All LIST commands will fail.</p>		
<b>User response</b>		
<p>Verify that a valid OUTRPT DD statement is included in the step. Resubmit the request.</p>		
<b>HKT2131E</b>	<b>Bad return from point report container; R15 = xxxxxx; RSN = xxxxxx</b>	
<b>Explanation</b>		
<p>This is an internal error.</p>		

## User response

Contact IBM Software Support.

**HKT2132E** **Bad return from get next report;  
R15 = xxxxxx; RSN = xxxxxx**

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

**HKT2133E** **Internal error, bad get next record;  
R15 = xxxxxx; R0 = xxxxxx**

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

**HKT2134E** **Requested report in LIST  
not found; PRODUCTID=xx;  
REPORTID=xx**

## Explanation

The requested REPORTID to be LISTed from the given PRODUCTID was not found.

## User response

Correct either the PRODUCTID or the REPORTID and resubmit the request.

**HKT2135E** **Unknown type from table load;  
xxxxxx type encountered**

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

**HKT2136E** **Bad return code from add product;  
R15 = xxxxxx; RSN = xxxxxx**

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

**HKT2137E** **Internal table load request failed;  
TABLENAME = xxxxxx**

## Explanation

An attempt was made to load the displayed table.

## User response

Verify that you have the correct STEPLIB. If the library is correct, contact IBM Software Support.

**HKT2138E** **Bad return code from add report;  
R15=xxxxxx; RSN=xxxxxx**

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

**HKT2139E** **Incorrect message requested  
message xxxx not found**

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

**HKT2140E** **Specified PRODUCTID was not  
found in the internal table;  
PRODUCTID=xx**

## Explanation

The PRODUCTID that was requested could not be found.

## User response

Correct the value for PRODUCTID parameter and resubmit the request.

**HKT2142E** **External table xxxxxx did not begin  
with a product record**

## Explanation

The requested TABLE= parameter value is not in the proper format.

## User response

Contact the supplier of this table for a correct table name.

<b>HKT2143E</b>	<b>External table xxxxxx had multiple products; only 1 used</b>
-----------------	---

## Explanation

The TABLE= parameter name was loaded. The first product was added. Additional product records were on this table. Only the first product was added.

## User response

Inform the supplier of this table.

<b>HKT2144E</b>	<b>Invalid execution parameter</b>
-----------------	------------------------------------

## Explanation

The parser detected a problem with the execution parameter that was specified.

## User response

Correct the error and resubmit the request.

<b>HKT2146E</b>	<b>Server specified unavailable; ITKBSRVR=xxxxxx</b>
-----------------	--

## Explanation

The server ID that was specified on the execution parameter cannot be accessed.

## User response

Verify that the correct sever ID was specified. Inspect the job log for any indication of the problem. Correct and resubmit the request.

<b>HKT2147E</b>	<b>PRODUCTID already exists in the repository</b>
-----------------	---

## Explanation

The request for the ADDPROD failed because the PRODUCTID already exists in the repository.

## User response

This is an informational message.

<b>HKT2148E</b>	<b>PRODUCTID not found while attempting to add report; PRODUCTID=xx; REPORTID=xxxxxx</b>
-----------------	--

## Explanation

The ADDRPT failed because the PRODUCTID requested does not exist. Products must be present before reports can be added to them.

## User response

Change the ADDRPT request so that it is associated with an existing PRODUCTID.

<b>HKT2149E</b>	<b>Invalid short name. Only 0-9,A-Z,a-z,#@\$-_ or blank are valid. SNAME=xxxxxx</b>
-----------------	---

## Explanation

An invalid value was specified on the SNAME parameter. The value that you specify for the SNAME parameter must either be blank or must consist of the characters 0-9, A-Z, a-z, #, @, \$, -, \_, or blank.

## User response

Correct the SNAME parameter value and resubmit the request.

<b>HKT2150E</b>	<b>Invalid long name. Only 0-9,A-Z,a-z,#@\$-_ or blank are valid. LNAME=xxxxxx</b>
-----------------	--

## Explanation

An invalid value was specified on the LNAME parameter. The value that you specify for the LNAME parameter must either be blank or must consist of the characters 0-9, A-Z, a-z, #, @, \$, -, \_, or blank.

## User response

Correct the LNAME parameter value and resubmit the request.

<b>HKT2151E</b>	<b>Invalid short title. Only 0-9,A-Z,a-z,#@\$-_ or blank are valid. STITLE=xxxxxx</b>
-----------------	---

## Explanation

An invalid value was specified on the STITLE parameter. The value that you specify for the STITLE parameter must either be blank or must consist of the characters 0-9, A-Z, a-z, #, @, \$, -, \_, or blank.

## User response

Correct the STITLE parameter value and resubmit the request.

<b>HKT2152E</b>	<b>Invalid long title. Only 0-9,A-Z,a-z,#@\$-_ or blank are valid. LTITLE=xxxxxx</b>
-----------------	--

## Explanation

An invalid value was specified on the LTITLE parameter. The value that you specify for the LTITLE parameter must either be blank or must consist of the characters 0-9, A-Z, a-z, #, @, \$, -, \_, or blank.

## User response

Correct the LTITLE parameter value and resubmit the request.

<b>HKT2153E</b>	<b>Invalid RETENTION. Must be between 0 and 32767</b>
-----------------	---

## Explanation

An invalid value was specified for the RETENTION parameter. The RETENTION parameter must be set to a numeric value between 0 and 32767.

## User response

Specify a valid value for the RETENTION parameter and resubmit the request.

<b>HKT2154E</b>	<b>SYSIN data set contains no valid data</b>
-----------------	--

## Explanation

Nothing could be processed because no valid requests were found.

## User response

Correct the problem and resubmit the request.

<b>HKT2155E</b>	<b>PRODUCTID specified is invalid; PRODUCTID=xx</b>
-----------------	---

## Explanation

An invalid value was specified for the PRODUCTID parameter. The value that you specify for the PRODUCTID parameter must consist of the characters 0-9, A-Z, a-z, #, @, \$, and -.

## User response

Correct the PRODUCTID parameter value and resubmit the request.

<b>HKT2156E</b>	<b>REPORTID specified is invalid; REPORTID=xxxxxx</b>
-----------------	---

## Explanation

The REPORTID parameter must use A-Z,0-9,@,#,\$ as valid characters.

## User response

Specify a valid value for the REPORTID parameter and resubmit the request.

<b>HKT2157E</b>	<b>Invalid RETENTION specified</b>
-----------------	------------------------------------

## Explanation

An invalid value was specified for the RETENTION parameter. The value that you specify for the RETENTION parameter must be a numeric value between 0 and 32767.

## User response

Specify a valid value for the RETENTION parameter and resubmit the request.

<b>HKT2158I</b>	<b>Request completed successfully</b>
-----------------	---------------------------------------

## Explanation

Request completed successfully.

## User response

This is an informational message that indicates the successful completion of the request.

<b>HKT2159E</b>	<b>Internal error, bad point container; R15=xxxxxx; R0=xxxxxx</b>
-----------------	---

## Explanation

This is an internal error.

## User response

Contact IBM Software Support.

<b>HKT2160E</b>	<b>Unknown Keyword - xxxxxx</b>
-----------------	---------------------------------

## Explanation

An unknown keyword was encountered in the input. The message contains the unknown keyword.

## User response

Change the unknown keyword to one of the keywords that are defined for the product administration utility (HKTAPRA0).

<b>HKT2161E</b>	<b>Unknown Positional Parameter - xxxxxx</b>
-----------------	--

### **Explanation**

An unknown positional parameter was encountered in the input. The message contains the unknown parameter.

### **User response**

Change the unknown parameter to one of the parameters that are defined for the product administration utility (HKTAPRA0).

<b>HKT2162E</b>	<b>Keyword missing sub-parameters - xxxxxx</b>
-----------------	--

### **Explanation**

A keyword was encountered without its required sub-parameters. The message contains the keyword parameter.

### **User response**

Ensure that the keyword is specified with all required parameters.

<b>HKT2163E</b>	<b>Input ended before all keywords processed</b>
-----------------	--

### **Explanation**

The product administration utility (HKTAPRA0) found end-of-file before all of the specified parameters were processed.

### **User response**

Ensure that all parameters are correct.

<b>HKT2164E</b>	<b>Keyword found instead of value - xxxxxx</b>
-----------------	--

### **Explanation**

A keyword was encountered when a value was expected. The keyword is contained in the message.

### **User response**

Ensure that the correct parameter syntax is specified.

<b>HKT2165E</b>	<b>Number out of range - xxxxxxx</b>
-----------------	--------------------------------------

### **Explanation**

A number was encountered that was out of the range allowed. The message contains the incorrect number.

### **User response**

Ensure that the number specified is within the allowable range.

<b>HKT2166E</b>	<b>Invalid number - xxxxxxx</b>
-----------------	---------------------------------

### **Explanation**

A number was encountered that contained non-decimal digits. The message contains the incorrect number.

### **User response**

Ensure that the number is specified correctly.

<b>HKT2167E</b>	<b>Unknown keyword value - xxxxxxx</b>
-----------------	--

### **Explanation**

The value that was specified for the keyword is not one of the allowed values. The message contains the incorrect value.

### **User response**

Ensure that you use valid values when specifying this keyword.

<b>HKT2168E</b>	<b>Keyword parameter specified more than once - xxxxxxx</b>
-----------------	---

### **Explanation**

A keyword was encountered more than once in the input. The message contains the incorrect keyword.

### **User response**

Ensure that the keyword is specified the correct number of times.

<b>HKT2169E</b>	<b>Required parameter was not found</b>
-----------------	---

### **Explanation**

One of the required parameters was not found.

### **User response**

Ensure that all required parameters are specified.

<b>HKT2170E</b>	<b>Keyword value too long - xxxxxxx</b>
-----------------	---

### **Explanation**

The value specified for the keyword is longer than allowed. The message contains the incorrect value.

## User response

Ensure that the value specified for the keyword is correct.

---

<b>HKT2171E</b>	<b>Invalid REPOSITORY name specified; REPOSITORY=xxxxxx</b>
-----------------	---

## Explanation

The REPOSITORY= parameter specified an invalid value. The value must be a numeric value and must not exceed seven characters.

The value is the repository name without the initial O. For example, use 1234567 for a repository name of O1234567.

## User response

Specify a valid REPOSITORY parameter name and resubmit the request.

---

<b>HKT2172E</b>	<b>REPOSITORY is unavailable</b>
-----------------	----------------------------------

## Explanation

The attempt to connect to the specified REPOSITORY was unsuccessful.

## User response

Verify that the REPOSITORY value specified was correct and resubmit the request.

---

<b>HKT2173E</b>	<b>REPLACE option = NO. RELEASE information exists.</b>
-----------------	---

## Explanation

Information was not replaced because REPLACE=YES was not specified.

## User response

This is an informational message.

---

<b>HKT2174E</b>	<b>Invalid external table specified; TABLE=xxxxxx</b>
-----------------	---

## Explanation

The module that is specified in the TABLE= parameter does not conform to the required format.

## User response

Notify the creator of the module to correct this problem.

---

<b>HKT2175E</b>	<b>External table specified not found in STEPLIB; TABLE=xxxxxx</b>
-----------------	--

## Explanation

The TABLE= parameter value could not be found. External table modules must reside in the standard load concatenation sequence.

## User response

Place the requested module where it can be located.

---

<b>HKT2176E</b>	<b>HKTAPRS0 not found in STEPLIB. Verify that the correct STEPLIB is included.</b>
-----------------	--

## Explanation

The IBM-generated internal table could not be located.

## User response

Add this module to the execution library.

---

<b>HKT2177E</b>	<b>Connect failed for requested REPOSITORY</b>
-----------------	--

## Explanation

A connection to a requested repository failed.

Possible reasons for the failed connection include:

- The IMS Tools Knowledge Base server is not running or incorrectly specified.
- The required IMS Tools Knowledge Base repository name is incorrectly specified.
- The ADDPROD command used the REPLACE=YES parameter, which requires the use of the default definition table and the repository name referenced in the product registry.

## User response

Troubleshoot the connection failure from the suggestions described in the Explanation section, and resubmit the request.

---

<b>HKT2178I</b>	<b>Attempting to add xxxxxx</b>
-----------------	---------------------------------

## Explanation

This is an informational message intended to be used in conjunction with other messages in the event of an error.

## User response

Informational only.

<b>HKT2179E</b>	<b>Run terminated due to bad enqueue return; R15=xxxxxx</b>
-----------------	---

## Explanation

An enqueue request was issued and failed.

## User response

Contact the IBM Software Support.

<b>HKT2180E</b>	<b>Run terminated due to load failure for HKTRIAX</b>
-----------------	---

## Explanation

HKTAPRA0 failed to find the required module. The run is terminated.

## User response

Correct the problem and resubmit the request.

<b>HKT2181E</b>	<b>Run terminated due to load failure for HKTXRRF</b>
-----------------	---

## Explanation

The product administration utility (HKTAPRA0) failed to find the required module. The run terminates.

## User response

Correct the problem and resubmit the request.

<b>HKT2182E</b>	<b>Run terminated due to load failure for HKTXPRR</b>
-----------------	---

## Explanation

The product administration utility (HKTAPRA0) failed to find the required module. The run terminates.

## User response

Correct the problem and resubmit the request.

<b>HKT2183E</b>	<b>Attempted to add a report. Failed to find PRODUCTID=</b>
-----------------	---

## Explanation

The ADDRPT command could not find the PRODUCTID that was specified during the add report request.

## User response

Verify that a valid PRODUCTID was used. Register the product or specify a product that is registered with IMS Tools Knowledge Base.

<b>HKT2184I</b>	<b>Reports were not added to previous definitions because REPLACE=NO</b>
-----------------	--

## Explanation

The ADDPRD request tried to add one or more reports that already existed. This occurs when the ADDPRD is performed for a product that is already defined. Processing resumes with the next report for the product.

## User response

None. This message is informational.

<b>HKT2201I</b>	<b>HKTJEXPT ended with RC=</b>
-----------------	--------------------------------

## Explanation

This message shows the highest return code that was encountered during the running of the job. Information message only.

## User response

None. This message is informational.

<b>HKT2202I</b>	<b>The LOG DD failed to open; LOG=NO will be assumed.</b>
-----------------	---

## Explanation

A HKTLOG DD statement might have been omitted from the HKTJEXPT job stream.

## User response

Ensure that a HKTLOG DD statement is in the HKTJEXPT job stream.

<b>HKT2203E</b>	<b>No EXEC parameters found. ITKBSRVR parameter is required.</b>
-----------------	--

## Explanation

The execution parameter has been omitted from the HKTJEXPT job stream.

## User response

Add the execution parameter that specifies the ITKBSRVR parameter.

<b>HKT2204I</b>	<b>EXEC parameter specified</b>
-----------------	---------------------------------

## Explanation

This message shows the execution parameter that was specified.

## User response

This message is displayed before an error message. Refer to the messages that follow.

<b>HKT2205E</b>	<b>VERSION parameter is greater than zero.</b>
-----------------	--

## Explanation

The version parameter specified is greater than zero.

## User response

The current version of a report is version zero.

<b>HKT2206E</b>	<b>Unsuccessful parse of EXEC PARMS. Internal error.</b>
-----------------	--

## Explanation

An internal error occurred in the parser.

## User response

Contact IBM Software Support.

<b>HKT2207E</b>	<b>Errors found in EXEC PARMS.</b>
-----------------	------------------------------------

## Explanation

Errors were found in the EXEC PARMS.

## User response

This message is followed by message HKT2204I, which shows the EXEC parameters that were specified. A message that indicates the error will follow.

<b>HKT2208E</b>	<b>The PRINT DD failed to open.</b>
-----------------	-------------------------------------

## Explanation

A PRINT DD statement might have been omitted from the HKTJEXPT job stream.

## User response

Ensure that a PRINT DD statement is in the HKTJEXPT job stream.

<b>HKT2209E</b>	<b>Server name is required.</b>
-----------------	---------------------------------

## Explanation

An IMS Tools KB server name was not specified.

## User response

Ensure that the name of an active IMS Tools KB server is specified.

<b>HKT2210E</b>	<b>Unsuccessful parse of SYSIN data. Internal error.</b>
-----------------	--

## Explanation

An internal error occurred in the parser.

## User response

Contact IBM Software Support.

<b>HKT2211E</b>	<b>Storage overflow for SYSIN data.</b>
-----------------	---

## Explanation

An internal error occurred in the parser.

## User response

Contact IBM Software Support.

<b>HKT2212E</b>	<b>Unable to connect to ITKB repository server.</b>
-----------------	---

## Explanation

The specified IMS Tools KB server is not active.

## User response

Ensure that the name of an active IMS Tools KB server is specified. Check the job log for any additional messages.

<b>HKT2213E</b>	<b>Required parameter EXPORT not found, xxxx was found.</b>
-----------------	---

## Explanation

The required control statement verb EXPORT was not found. The character string that was found is displayed in the message.

## User response

Ensure that EXPORT is specified on the first control statement.

<b>HKT2214W</b>	<b>No Reports selected.</b>
-----------------	-----------------------------

## Explanation

There are no reports that match the specified parameters.

## User response

Change the report selection parameters to be less specific.

<b>HKT2215E</b>	<b>Both RECON1 and RECONID are specified. Only one can be specified.</b>
-----------------	--

## Explanation

Both RECON1 and RECONID were specified. Only one can be specified.

## User response

Ensure that only RECON1 or RECONID is specified.

<b>HKT2216E</b>	<b>INITIAL failed (LP) (nn,nn).</b>
-----------------	-------------------------------------

## Explanation

An internal error occurred in IMS Tools Knowledge Base.

## User response

Contact IBM Software Support.

<b>HKT2217E</b>	<b>Group type/Group name must be specified together.</b>
-----------------	--

## Explanation

A GRPTYPE or GRPNAME parameter was found without the other. Both parameters must be present.

## User response

Ensure that both the GRPTYPE and GRPNAME parameters are specified.

<b>HKT2218E</b>	<b>Invalid group type given. Types are CA or DBDS.</b>
-----------------	--

## Explanation

The value that was specified for the GRPTYPE parameter was not one of the allowed values.

## User response

Change the GRPTYPE value to one of the allowed values.

<b>HKT2219E</b>	<b>Both PART and AREA are specified. Only one can be specified.</b>
-----------------	---

## Explanation

Both the PART and AREA parameter were specified. Only one can be specified.

## User response

Ensure that only the PART or AREA parameter is specified.

<b>HKT2220W</b>	<b>One or more of the Output Repositories are not available.</b>
-----------------	--

## Explanation

One or more of the output repositories are not available. This might prevent some reports from being selected if they are in an offline repository.

## User response

Ensure that all repositories are online when exporting reports.

<b>HKT2221E</b>	<b>No output repositories.</b>
-----------------	--------------------------------

## Explanation

HKTJEXPT determined that there are no output repositories available at this time.

## User response

Notify the IMS Tools Knowledge Base administrator.

<b>HKT2223E</b>	<b>Input registry not available, verify that server nnn is active.</b>
-----------------	--

## Explanation

HKTJEXPT determined that the input registry is not available at this time.

## User response

Ensure that the specified server is available and if so, notify the IMS Tools Knowledge Base administrator.

<b>HKT2226E</b>	<b>Report open failed, verify that all parameters are valid. (nn,nn).</b>
-----------------	---

## Explanation

The report selected failed to open.

## User response

Contact IBM Software Support.

---

**HKT2228E      Product xx not defined.**

## Explanation

The value that was specified for the PRODUCTID parameter was not defined.

## User response

Ensure that the product has been registered with the IMS Tools KB server.

---

**HKT2229E      Report xx not defined.**

## Explanation

The value that was specified for the REPORTID parameter was not defined.

## User response

Ensure that the report has been registered with the IMS Tools KB server.

---

**HKT2230E      RECONID *reconid* not defined.**

## Explanation

The value that was specified for the RECONID parameter was not defined.

## User response

Ensure that this RECONID value has been defined with the IMS Tools KB server.

---

**HKT2231E      RECON1 *dsn* not defined.**

## Explanation

The value that was specified for the RECON1 parameter was not defined.

## User response

Ensure that this RECON1 value has been defined with the IMS Tools KB server.

---

**HKT2233W      *nnnn* reports were selected which exceeds MAXREPORTS.**

## Explanation

The number of reports selected exceeds the value specified for the MAXREPORTS parameter.

## User response

None required. Only the number of reports specified by the MAXREPORTS parameter will actually be printed.

---

**HKT2234E      Repository read error (nn,nn)**

## Explanation

An internal error occurred in the IMS Tools Knowledge Base.

## User response

Contact IBM Software Support.

---

**HKT2235W      Some report records were truncated while being written to the PRINT dd.**

## Explanation

Some of the records in the report were longer than allowed for SYSOUT.

## User response

Ensure that the record length of the report file is 133 bytes or shorter.

---

**HKT2236E      The first version number is greater than the second.**

## Explanation

The first version number is greater than the second.

## User response

Ensure that when a version number range is specified that the first version is less than the second.

---

**HKT2237E      There are no RECON entries in the registry.**

## Explanation

HKTJEXPT determined that no RECON entries are present in the IMS Tools Knowledge Base repository.

## User response

Notify the IMS Tools Knowledge Base administrator.

---

**HKT2238W      STARTAFTER specified without MAXREPORTS, the STARTAFTER will be ignored.**

## Explanation

A STARTAFTER parameter was found without a MAXREPORTS parameter. STARTAFTER requires MAXREPORTS.

## User response

Ensure that when STARTAFTER is specified that the MAXREPORTS parameter is also specified.

---

**HKT2239E      No SYSIN control statements found.**

## Explanation

No SYSIN control statements were found.

## User response

Ensure that the SYSIN DD statement is correctly specified.

---

**HKT2240W      Report printing bypassed because of mixed attributes, RECFM=FBA or FBM.**

## Explanation

HKTJEXPT detected that the attributes of the reports selected has changed from fixed to variable or variable to fixed as they are being printed. The report will not be printed.

## User response

Change the selection criteria to eliminate the mixed attribute types.

---

**HKT2241W      Invalid value for MAXREPORTS, 1 assumed.**

## Explanation

The value specified was not in the allowable range. The range of valid values for this parameter is 1 to 2147483647.

## User response

Ensure that the correct parameter value is specified.

---

**HKT2242W      Invalid value for STARTAFTER, 0 assumed.**

## Explanation

The value specified was not in the allowable range. The range of valid values for this parameter is 0 to 2147483647.

## User response

Ensure that the correct parameter value is specified.

---

**HKT2243E      VERSION parameter exceeds range.**

## Explanation

The value specified was not in the allowable range. The range of valid values for this parameter is 0 to 32767.

## User response

Ensure that the correct parameter value is specified.

---

**HKT2244C      Report selection table exceeds 10000 entries.**

## Explanation

The number of reports exceeded the size of the internal table.

## User response

Use the MAXREPORTS and STARTAFTER parameters to break the selected reports into groups of less than 10,000 entries.

---

**HKT2261E      Unknown keyword - xxxx**

## Explanation

An unknown keyword was encountered in the input. The message contains the unknown keyword.

## User response

Change the unknown keyword to one of the keywords that are defined for HKTJEXPT.

---

**HKT2262E      Unknown positional parameter - xxxx**

## Explanation

An unknown positional parameter was encountered in the input. The message contains the unknown parameter.

## User response

Change the unknown parameter to one of the parameters that are defined for HKTJEXPT.

---

**HKT2263E      Keyword missing sub-parameter - xxxxxxx**

## Explanation

A keyword was encountered without its required sub-parameters. The message contains the keyword parameter.

## User response

Ensure that the keyword is specified with all required parameters.

---

<b>HKT2264E</b>	<b>Input ended before all keywords processed</b>
-----------------	--

---

## Explanation

HKTJEXPT found end-of-file before all of the specified keywords were processed.

## User response

Ensure that all keywords are correct.

---

<b>HKT2265E</b>	<b>Keyword found instead of value - xxxx</b>
-----------------	--

---

## Explanation

A keyword was encountered when a value was expected. The keyword is contained in the message.

## User response

Ensure that the correct parameter syntax is specified.

---

<b>HKT2266E</b>	<b>Number out of range - xxxx</b>
-----------------	-----------------------------------

---

## Explanation

A number was encountered that was out of the range allowed. The message contains the incorrect number.

## User response

Ensure that the number that was specified is within the allowable range.

---

<b>HKT2267E</b>	<b>Invalid number - xxxx</b>
-----------------	------------------------------

---

## Explanation

A number was encountered that contained non-decimal digits. The message contains the incorrect number.

## User response

Ensure that the number is correctly specified.

---

<b>HKT2268E</b>	<b>Unknown keyword value - xxxx</b>
-----------------	-------------------------------------

---

## Explanation

The value that was specified for the keyword is not one of the allowed values. The message contains the incorrect value.

## User response

Ensure that the value that was specified is one of the allowed values.

---

<b>HKT2269E</b>	<b>Keyword parameter specified more than once - xxxx</b>
-----------------	--

---

## Explanation

A keyword was encountered more than once in the input. The message contains the incorrect keyword.

## User response

Ensure that the keyword is specified the correct number of times.

---

<b>HKT2270E</b>	<b>Required parameter was not found</b>
-----------------	---

---

## Explanation

One of the required parameters was not found.

## User response

Ensure that all required parameters are specified. This message will be accompanied by HKT2272.

---

<b>HKT2271E</b>	<b>Keyword value too long - xxxx</b>
-----------------	--------------------------------------

---

## Explanation

The value that was specified for the keyword exceeds the maximum allowable length. The message contains the incorrect value.

## User response

Ensure that the value that was specified for the keyword is correct.

---

<b>HKT2272I</b>	<b>Required parameters are PRODUCTID and REPORTID.</b>
-----------------	--

---

## Explanation

This message lists the required parameters for HKTJEXPT.

## User response

Informational message.

---

**HKT2300E      No RECON entries in the registry.****Explanation**

No RECON environments are defined to IMS Tools Knowledge Base. The RECON definitions must be initialized even if you are not using a RECON.

**User response**

If you do not use DBRC, you can run the JOB HKTDFREP.

Use the NEW command from the Recon Information panel (Administration>List Recon Information menu option) of the ISPF user interface to add the RECON environment to IMS Tools Knowledge Base.

---

**HKT2301E      Unable to connect – incorrect server name or insufficient access authority to repository****Explanation**

The server that you specified is either not available, or the name is incorrect, or you have insufficient access authority to the repository.

**User response**

Check the server name that was specified. If it is correct, make sure the server initialized successfully.

To enable communication with the IMS Tools KB server, the FPQ subsystem is required on the system that you are running on. Ensure it is initialized correctly.

---

**HKT2302E      Insufficient access authority to repository****Explanation**

Your access control system prevented access to one or more repositories.

**User response**

Determine which repository is affected and request the necessary authority.

---

**HKT2303E      Report defined as RECORD=N****Explanation**

The report is currently defined to not be recorded (this is similar to DD DUMMY).

**User response**

Ignore this message if you do not want the report recorded. Otherwise, change the record setting for the report by using the Administration>List Installed Products/Subscription List action of the ISPF user interface.

---

**HKT2304E      RECON not found****Explanation**

The IMS Tool or IMPORT utility tried to add a report to IMS Tools Knowledge Base by using a RECON1 data set name that is not defined.

**User response**

Use the NEW command from the Recon Information panel (Administration>List Recon Information menu option) of the ISPF user interface to add the RECON environment to IMS Tools Knowledge Base.

---

**HKT2305E      Product not defined****Explanation**

The product is not registered to IMS Tools Knowledge Base.

**User response**

Use the product administration utility (HKTAPRA0) to register the product.

---

**HKT2306E      Report not defined****Explanation**

The report is not registered to IMS Tools Knowledge Base.

**User response**

Use the product administration utility (HKTAPRA0) to register the product.

---

**HKT2307E      Product not defined to record reports****Explanation**

The product is registered to IMS Tools Knowledge Base but is not currently defined to record any reports. This error might have occurred due to using the Administration>List Installed Products/Remove Subscriptions action of the ISPF user interface.

## User response

Re-register the product and its reports.

---

### HKT2308E Report index busy

## Explanation

The product attempted to write a report but another report with the same index value is being written. This probably results from running two or more product jobs performing the same function for the same database.

## User response

This problem should resolve when the competing job finishes. If you cannot identify a competing job, obtain a console dump of the server address space and contact IBM Software Support.

---

### HKT2309E Connection to I/O repository failed

## Explanation

The Output repository is not available and is likely stopped.

The repository might have been stopped intentionally or stopped because of an error. A likely error is an out-of-space condition.

## User response

The initial Output repository designation is 00000000. If other Output repositories were implemented, use the Admin drop-down menu from the IMS Tools Knowledge Base user interface, and select List Repositories to view other possible Output repositories involved in this error.

Analyze the error reported to the server JOBLOG to determine possible solutions to the problem.

---

### HKT2401I The program HKTRINIT ended with highest RC=xxxxxx

## Explanation

The return code is a decimal number.

## User response

None. This message is informational only. If the return code is nonzero, refer to other messages that were issued from the run of the program.

---

### HKT2402I The HKTLOG DD failed to open, so logging does not occur for the job.

## Explanation

LOG=YES was specified in the job's execution parameters, but an HKTLOG DD statement was not present in the job stream. Processing continues without logging.

## User response

If logging the job is required, specify LOG=YES in the job's execution parameters and ensure that an HKTLOG DD statement is present in the job stream.

---

### HKT2404I EXEC parameter specified - xxxxxxx

## Explanation

This message is issued when an error is detected in the job's execution parameters. It displays the execution parameters that were specified.

## User response

This message is displayed with other messages. Refer to these messages for additional diagnostic information.

---

### HKT2406E Unsuccessful parse of EXEC PARMS. Internal error. Parse RC=xxxx

## Explanation

An internal error occurred in the parser. The displayed parser return code and reason code are hexadecimal values.

## User response

Contact IBM Software Support.

---

### HKT2407E Errors found in EXEC parameters.

## User response

This message is displayed with other messages. Refer to these messages for more diagnostic information.

---

### HKT2408E Unable to add xxxxxxxx due to system contention. Please try again later.

## Explanation

System contention prevented the operation.

## User response

Try the action later.

---

**HKT2409E Server name is required.****Explanation**

An IMS Tools KB server name was not specified.

**User response**

Ensure that the name of an active IMS Tools KB server is specified. You can place the name in the job's execution parameter or on the SYSIN control statements. Specify the server name by using 'ITKBSRVR=xxxxxxxx', where xxxxxxxx is the XCF group name that is associated with an active IMS Tools KB server.

---

**HKT2410E Unsuccessful parse of SYSIN data. Internal error. Parse RC=xxxx****Explanation**

An internal error occurred in the parser. The displayed parser return code and reason code are hexadecimal values.

**User response**

Contact IBM Software Support.

---

**HKT2411E Storage overflow for SYSIN data.****Explanation**

An internal error occurred in the parser.

**User response**

Contact IBM Software Support.

---

**HKT2412E Unable to connect to ITKB repository server.****Explanation**

The specified IMS Tools KB server is not active.

**User response**

Ensure that the name of an active IMS Tools KB server is specified. Check the job log for any additional messages.

---

**HKT2413E The parameter - xxxxxxx is unknown and was ignored.****Explanation**

The function that is specified on the control statement is unknown. The character string that was found is

displayed in the message. The supported functions are INITITKB, INITNSNR, and LISTRECN.

**User response**

Ensure that INITITKB, INITNSNR, or LISTRECN is specified on the control statement.

---

**HKT2414E RECON ID is invalid.****Explanation**

The RECON that is being added contains invalid characters.

**User response**

Contact IBM Software Support.

---

**HKT2415E Residual data buffer overflow.****Explanation**

An internal error occurred in conversion.

**User response**

Contact IBM Software Support.

---

**HKT2416E HKTRIAM service status: RC=xxxx Rsn=xxxx Func=xxxxxxxx****Explanation**

This message displays the execution status of an internal IMS Tools Knowledge Base function.

This message might be displayed by itself or it might be displayed with other messages. In a few situations, this message might appear when the return and reason codes are both zero.

Some common error conditions:

- RC=0010 with Rsn=0035 indicates that the process was unable to connect to a repository.
- RC=001C with Rsn=00C9 indicates that the IMS Tools Knowledge Base server was not found.
- RC=001C with Rsn=00CA indicates that the IMS Tools Knowledge Base subsystem is not defined.

Possible values for the function are ADD\_CONTAINER, GET\_CONTAINER\_LIST, INITIAL, GET\_RECORD\_LIST, POINT\_CONTAINER, RELEASE\_CONTAINER, REPLACE\_RECORD\_LIST, TERMINATE, and UPDATE\_RECORD\_LIST.

The return code and reason code are hexadecimal values.

## User response

Most failures in this internal service require analysis by IBM Software Support. If other messages are displayed, refer to their suggested user responses.

If the reported error is RC=0010 with Rsn=0035, ensure that the required repositories are connected to the IMS Tools Knowledge Base server and that the repositories are not stopped.

If the reported error is RC=001C with Rsn=00C9, ensure that the requested IMS Tools Knowledge Base server is active.

If the reported error is RC=001C with Rsn=00CA, the subsystem for the repository was not initialized. This condition might occur because the SETSSI command for Subsystem FPQ2 was not issued. It might also occur because the subsystem (server) that is up is not the same as the batch jobs that are being submitted.

---

**HKT2417E RECON xxxxxxxx could not be updated. Another user may have modified it.**

## Explanation

The RECON name listed could not be updated because it has been changed by another user.

## User response

Try the operation again later.

---

**HKT2418W No RECONs found. Ensure the ITKB repository is initialized.**

## User response

Run the HKTJINIT job and specify the INITITKB control statement to initialize the repository.

---

**HKT2419I RECON xxxxxxxx added.**

## Explanation

The RECON name listed has been added.

## User response

None. This is an informational message only.

---

**HKT2420W RECON xxxxxxxx already exists. No action taken.**

## Explanation

The RECON name listed is already in the repository.

## User response

None. This is an informational message only.

---

**HKT2421W The SYSIN DD statement is missing, so INITITKB is assumed.**

## Explanation

The SYSIN DD statement failed to open. HKTJINT processes as though an INITITKB control statement was specified.

## User response

None. This message is informational only.

---

**HKT2422E Connect failed for repository xxxxxxxx due to xxxxxxxx.**

## Explanation

The IMS Tools KB sever specified was not available. An explanation for the error is also listed.

Possible values are:

- FPQ subsystem not found
- Server not found
- Server in shutdown
- Server shutdown or failed
- Server is busy
- BUFSIZE exceeds maximum
- Repository not found
- Repository unavailable
- Insufficient authority

## User response

Check the spelling of the server name and ensure that the named server is active.

---

**HKT2423E The input repository is not available.**

## Explanation

The HKT\_INPUT repository could not be accessed. Either this repository is not connected to the IMS Tools KB server, or it is stopped.

## User response

Verify that the HKT\_INPUT repository is connected to the server and is not stopped. You can check the repository status in the **Administration** menu on the IMS Tools Knowledge Base ISPF dialog's primary options panel.

<b>HKT2424E</b>	<b>The Sensor Data Repository xxxx function failed. RC=xxxx Rsn=xxxx</b>	Ensure that the Sensor Data repository has been properly defined.
<b>Explanation</b>	An error occurred while accessing the Sensor Data repository. The possible function values are INIT, CNTL, and TERM.	Ensure that the Sensor Data repository has been started.
<b>User response</b>	The return code and reason code are hexadecimal values.	
<b>HKT2425W</b>	<b>The DAYS parameter is ignored for the xxxxxxxx control statement.</b>	<b>HKT2428I</b> <b>The Sensor Data retention period was previously set to nn days.</b>
<b>Explanation</b>	The DAYS parameter is only supported on an INITNSNR control statement, but it was specified on the INITITKB or LISTRECN control statement. The DAYS parameter is ignored and execution continues.	<b>Explanation</b> The sensor data retention period was previously set and the INITNSNR function was invoked to reset this value. Processing the current INITNSNR request continues.
<b>User response</b>	Remove the DAYS parameter from the control statement if the control statement is reused on subsequent runs.	The sensor data retention setting that was in effect before the INITNSNR function was invoked is shown.
<b>HKT2426W</b>	<b>The DAYS parameter out of range, so 365 days is assumed.</b>	<b>User response</b> None. This message is informational only.
<b>Explanation</b>	The DAYS parameter has a value that is out of range. The valid range is 1 - 32767.	<b>HKT2429I</b> <b>The INITITKB function was previously run.</b>
<b>User response</b>	Change the DAYS parameter to be within the specified range.	<b>Explanation</b> The INITITKB function was previously run, so the current request to run INITITKB is ignored.
<b>HKT2427E</b>	<b>Connect failed for ITKB server xxxxxxxx and the Sensor Repository.</b>	<b>User response</b> None. This message is informational only.
<b>Explanation</b>	The connection to the IMS Tools KB server and the Sensor Data repository failed.	<b>HKT2430E</b> <b>nnnnnn PARAMETER "rr" IS INCORRECT.</b>
<b>User response</b>	Ensure that the IMS Tools KB server name is spelled correctly.	<b>Explanation</b> The incorrect release <i>rr</i> was specified in the source or target. In the message text:
		<b>nnnnnn</b> Indicates whether this is source or target.
		<b>rr</b> The release level. Values can be either R1 or R2.
		<b>System action</b> Processing is stopped.
		<b>User response</b> Correct the release value for the specified <i>nnnnnn</i> value of source or target.
		<b>HKT2431E</b> <b>Same SOURCE and TARGET release specified.</b>

## Explanation

Both the source and target release are set to the same release.

## System action

Processing is stopped.

## User response

Correct the release value for the source and target in error.

---

**HKT2439E      No SYSIN control statements found.**

## Explanation

There were no control statements found in the file specified by the SYSIN DD.

## User response

Ensure that the file specified by the SYSIN DD statement contains valid HKTJINT control statements.

---

**HKT2440E      VSAM error nnnnnn RC - rc RS - rs**

## Explanation

A VSAM error has occurred while processing the source or target. In the message text:

### nnnnnn

One of the following:

- TESTCB1 - The VSAM TESTCB failed for a VSAM OPEN of the source RID data set.
- TESTCB2 - The VSAM TESTCB failed for a VSAM OPEN of the source RMD data set.
- TESTCB3 - The VSAM TESTCB failed for a VSAM OPEN of the target RMD data set.
- TESTCB4 - The VSAM TESTCB failed for a VSAM OPEN of the target RID data set.
- MODCB1 - The VSAM MODCB failed for a VSAM PUT of a target RID.
- MODCB2 - The VSAM MODCB failed for a VSAM PUT of a target RMD.
- PUT - The VSAM PUT failed for a target RID.
- PUT2 - The VSAM PUT failed for a target RMD.

### rc

The VSAM return code.

### rs

The VSAM reason code.

## System action

Processing is stopped.

## User response

Internal error; contact IBM Software Support.

---

**HKT2441E      VSAM open error DDNAME - dddddddd RC - rc RS - rs**

## Explanation

A VSAM OPEN operation failed. In the message text:

### ddddd

The DD name.

### rc

The VSAM return code.

### rs

The VSAM reason code.

## System action

Processing is stopped.

## User response

Check the VSAM return and reason codes to determine error. If problem persists, contact IBM Software Support.

---

**HKT2442E      VSAM close error DDNAME - RC - rc RS - rs**

## Explanation

A VSAM CLOSE operation failed. In the message text:

### ddddd

The DD name.

### rc

The VSAM return code.

### rs

The VSAM reason code.

## System action

Processing is stopped.

## User response

Check the VSAM return and reason codes to determine error. If problem persists, contact IBM Software Support.

---

**HKT2443E      Generate nnnnn failed DDNAME - dddddd RC - rc RS - rs**

## Explanation

A VSAM GENCB or MODCB operation failed. In the message text:

**nnnnnn**

One of the following:

- ACB1 - The VSAM GENCB failed for a VSAM ACB for the target RID data set.
- ACB2 - The VSAM GENCB failed for a VSAM ACB for the source RID data set.
- ACB3 - The VSAM GENCB failed for a VSAM ACB for the source RMD data set.
- ACB4 - The VSAM GENCB failed for a VSAM ACB for the target RMD data set.
- RPL1 - The VSAM GENCB failed for a VSAM RPL for the target RID data set.
- RPL2 - The VSAM GENCB failed for a VSAM RPL for the Source RID data set.
- RPL3 - The VSAM GENCB failed for a VSAM RPL for the Source RMD data set.
- RPL4 - The VSAM GENCB failed for a VSAM RPL for the target RMD data set.
- EXLST1 - The VSAM GENCB failed for a VSAM EXLST for the Source RMD data set.
- MODCB1 - The VSAM MODCB failed for a VSAM EXLST of the Source RID data set.

**ddddddd**

The DD name.

**rc**

The VSAM return code.

**rs**

The VSAM reason code.

## System action

Processing is stopped.

## User response

Check the VSAM return and reason codes to determine error. If problem persists, contact IBM Software Support.

**HKT2444E RMD key table overflow.**

## Explanation

An internal table buffer was not large enough and the data overflowed the allocated storage.

## System action

Processing is stopped.

## User response

Internal error; contact IBM Software Support.

**HKT2461E Unknown keyword - xxxxx**

## Explanation

An unknown keyword was encountered in the input. The message contains the unknown keyword.

## User response

Change the unknown keyword to one of the supported keywords or remove extraneous parameter text.

**HKT2462E Unknown positional parameter - xxxxx**

## Explanation

An unknown positional parameter was encountered in the input. The message contains the unknown parameter.

## User response

Change the unknown parameter to one of the supported parameters or remove extraneous parameter text.

**HKT2463E Keyword missing sub-parameter - xxxxxx**

## Explanation

A keyword was encountered without its required sub-parameters. The message contains the keyword parameter.

## User response

Ensure that the keyword is specified with all required parameters.

**HKT2464E Input ended before all keywords processed**

## Explanation

HKTJINT found end-of-file before all of the specified keywords were processed.

## User response

Ensure that all keywords are correct.

**HKT2465E Keyword found instead of value - xxxxx**

## Explanation

A keyword was encountered when a value was expected. The keyword is contained in the message.

## User response

Ensure that the correct parameter syntax is specified.

---

**HKT2466E** **Number out of range - xxxxx**

## Explanation

A number was encountered that was out of the range allowed. The message contains the incorrect number.

## User response

Ensure that the number that was specified is within the allowable range.

---

**HKT2467E** **Invalid number - xxxxxx**

## Explanation

A number was encountered that contained non-decimal digits. The message contains the incorrect number.

## User response

Ensure that the number is correctly specified.

---

**HKT2468E** **Unknown keyword value - xxxxxxx**

## Explanation

The value that was specified for the keyword is not one of the allowed values. The message contains the incorrect value.

## User response

Ensure that the value that was specified is one of the allowed values.

---

**HKT2469E** **Keyword parameter specified more than once - xxxxxxx**

## Explanation

A keyword was encountered more than once in the input. The message contains the incorrect keyword.

## User response

Ensure that the keyword is specified the correct number of times.

---

**HKT2470E** **Required parameter was not found.**

## Explanation

One of the required parameters was not found.

## User response

Ensure that all required parameters are specified. This message will be accompanied by HKT2472I.

---

**HKT2471E** **Keyword value too long - xxxxxxx**

## Explanation

The value that was specified for the keyword exceeds the maximum allowable length. The message contains the incorrect value.

## User response

Ensure that the value that was specified for the keyword is correct.

---

**HKT2472I** **Required parameters are INITITKB, INITNSNR, or LISTRECN.**

## Explanation

This message lists the required parameters for HKTJINT.

## User response

None. This is an informational message only.

---

**HKT2473I** **The xxxxxxxx function is processing for IMS Tools KB server xxxxxxxx.**

## Explanation

Indicates the start of the selected function. The function name is INITITKB, INITNSNR, or LISTRECN.

## User response

None. This message is informational.

---

**HKT2474I** **The xxxxxxxx function ended with RC=xxxxx.**

## Explanation

This message shows the function's return code. The function name is INITITKB, INITNSNR, or LISTRECN. The return code is a decimal number.

## User response

This message is informational only. If the return code is nonzero, refer to other messages that were issued during the function's run.

---

<b>HKT2475I</b>	<b>The Sensor Data retention period was reset to <i>nn</i> days.</b>
-----------------	--

## Explanation

The INITNSNR function successfully updated the sensor data retention value. This message is shown even if the previous setting and the updated setting are the same value.

The updated sensor data retention setting is shown.

## User response

None. This message is informational only.

---

<b>HKT2501E</b>	<b>LOCID=mmm RC=10 RSN=01 R0=rrrrrrrr : LOG SPECIFICATION ERROR</b>
-----------------	---

## Explanation

The HKTEXST DELETE function failed to delete the requested member.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the correct member to delete was specified.

Also, ensure that the member had not previously been deleted.

---

<b>HKT2502I</b>	<b>LOCID=mmm RC=04 RSN=02 R0=rrrrrrrr : NO PRODUCT EXTENSIONS FOUND</b>
-----------------	---

## Explanation

The product definition did not contain product extension data. This might or might not be an error.

If an older product definition version (prior to IMS Tools Base 1.7) did not contain product extension data, then return and reason codes are produced.

## System action

Program returns to the caller with the error and reason codes.

## User response

The message can be a correct result.

If you know that an extension should be expected, then the product library definitions should be reviewed with an administrator.

---

<b>HKT2503E</b>	<b>LOCID=mmm RC=16 RSN=03 R0=rrrrrrrr : NO SERVER SUPPLIED</b>
-----------------	--

## Explanation

The product definition initialization program does not specify the server name for the product definition repository (HKT\_REGISTRY).

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the ITKBSRVR= parameter value is correctly specified in the PARM field of the HKTAPRA0 program.

---

<b>HKT2504E</b>	<b>LOCID=mmm RC=12 RSN=4 R0=rrrrrrrr : UNABLE TO INITIALIZE OR SYNCH WITH EXTENDED PRODUCT REPOSITORY (HKT_REGISTRY)</b>
-----------------	--

## Explanation

During initialization of defining a product definition, the process could not make a connection or establish a synch point with the product registry (HKT\_REGISTRY).

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the correct group (server) was specified or that the server is up and running.

If the problem persists, run again with a log file and report the issue to the system administrator or IBM Software Support.

---

<b>HKT2505E</b>	<b>LOCID=mmm RC=8 RSN=05 R0=rrrrrrrr : NO EXTENDED DATA TO PROCESS</b>
-----------------	--

## Explanation

No extended product data was passed to the extended product definition initializer.

## System action

Program returns to the caller with the error and reason codes.

## User response

Although there is an extended reference, the extended data passed was null.

Check the extended product definition ensure there is a correct definition.

This error might have to be reported to a system administrator.

---

**HKT2506E      LOCID=mmm RC=16 RSN=6  
R0=rrrrrrrr : INVALID EXTENDED  
PRODUCT PROCESSING LENGTH  
PARAMETER WAS PASSED**

## Explanation

A bad length to an extended product specification was passed to the extended product processor.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the product definition library and members are correctly specified.

Additionally, ensure that there has not been any corruption to the member.

If necessary, rerun with logging and report the error to the system administrator.

---

**HKT2507E      LOCID=mmm RC=8 RSN=7  
R0=rrrrrrrr : AN EXTENDED  
PRODUCT ENTITY HAS TOO  
LONG OF A STRING VALUE  
CAUSING TRUNCATION STRING  
TRUNCATION**

## Explanation

A value for an extended product variable was too long.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the settings of the extended product variables to ensure that they were coded correctly.

If necessary, rerun the job with a log file.

---

**HKT2508E      LOCID=mmm RC=16 RSN=8  
R0=rrrrrrrr : AN INVALID  
PROCESSING STATE DETECTED  
DUE TO OUT OF SEQUENCE  
COMMANDS PASSED**

## Explanation

Extended product processing data was passed out of sequence to the extended product initializer.

## System action

Program returns to the caller with the error and reason codes.

## User response

Rerun the job with a log file and report the problem to a system administrator or IBM Software Support.

---

**HKT2509E      LOCID=mmm RC=8 RSN=9  
R0=rrrrrrrr : A LOAD LIBRARY  
(LLR) DDNAME SETTING IS  
MISSING IN THE EXTENDED  
PRODUCT DEFINITION**

## Explanation

The required library ddname (PENU\_DD, MENU\_DD, SLIB\_DD) was missing from the extended product definition.

**Note:** LOAD\_DD is optional.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that all the required library ddname references are defined in the extended product definition module.

---

**HKT2510E      LOCID=mmm RC=8 RSN=10  
R0=rrrrrrrr : DSNAME  
EXTRACTION FAILED**

## Explanation

A ddname specified for a library (LOAD\_DD, PENU\_DD, MENU\_DD, or SLIB\_DD) is missing in the JCL or could not be accessed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to ensure that all the referenced library definitions have the corresponding JCL ddname or DSNDEF control statement definition.

---

**HKT2511E      LOCID=mmm RC=16 RSN=11**  
**R0=rrrrrrrr : LIBRARY LLR ENTRY**  
**OVERFLOW**

## Explanation

The number of libraries defined exceeds the maximum allowed to hold in the repository.

There are currently four libraries: LOAD\_DD, PENU\_DD, MENU\_DD, and SLIB\_DD.

The current maximum allowed, for future expansion, is eight.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the product definition modules are correctly constructed.

If the problem persists, report the issue to a system administrator or IBM Software Support.

Future possible expansions might cause the maximum number to be increased.

---

**HKT2512E      LOCID=mmm RC=16 RSN=12**  
**R0=rrrrrrrr : PROJECT DATA IS**  
**MISSING**

## Explanation

The required two (2) character project (or product) identifier is missing.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the product definition module has specified the project (or product) identifier.

---

**HKT2513E      LOCID=mmm RC=16 RSN=13**  
**R0=rrrrrrrr : ADD OF LRR**  
**LIBRARIES FAILED**

## Explanation

The attempted add of the library (LLR) data to the registration repository failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

This message indicates a problem with the registration repository. Rerun the job with a log file.

If the problem persists, report it to a system administrator or IBM Software Support.

---

**HKT2514E      LOCID=mmm RC=16 RSN=14**  
**R0=rrrrrrrr : SYNCHRONIZATION**  
**OF EXTENDED PRODUCT**  
**REGISTRY ENTRIES FAILED TO**  
**COMMIT**

## Explanation

The attempted commit of the extended updates to the registration repository failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

This message indicates a problem with the registration repository. Rerun the job with a log file.

If the problem persists, report it to a system administrator or IBM Software Support.

---

**HKT2516E      LOCID=mmm RC=12 RSN=16**  
**R0=rrrrrrrr : INVALID YES OR NO**  
**FLAG PASSED FROM EXTENDED**  
**PRODUCT DEFINITION**

## Explanation

One of the extended product flags, such as FFDB, had a value that was other than Yes or No.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the extended product registration module to ensure that all the flag fields specified are defined correctly.

**HKT2518E**

**LOCID=mmm RC=12 RSN=18**  
**R0=rrrrrrrr : REQUIRED NAME**  
**MISSING**

## Explanation

The extended product required PROGRAM name is missing.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the extended product registration module to ensure that the PROGRAM name has been defined.

**HKT2519E**

**LOCID=mmm RC=16 RSN=19**  
**R0=rrrrrrrr : ACCESS TEMPLATE**  
**FILE FAILED**

## Explanation

Accessing the template file failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the JCL template file is specified in the JCL and has the correct attributes.

**HKT2520E**

**LOCID=mmm RC=8 RSN=20**  
**R0=rrrrrrrr : TEMPLATE FILE IS**  
**NULL**

## Explanation

The JCL template file was NULL. It did not contain any data.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the specified JCL template file data set is correct, and that it contains the JCL template.

**HKT2521E**

**LOCID=mmm RC=12 RSN=21**  
**R0=rrrrrrrr : EXTENDED**  
**PRODUCT DEFINITIONS CONTAIN**  
**DUPLICATE KEY DEFINITIONS**

## Explanation

The extended product definition contained duplicate definitions.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the extended product definition for any duplicate definitions, and remove the duplicate definition.

**HKT2527E**

**LOCID=mmm RC=12 RSN=27**  
**R0=rrrrrrrr : ACCESS TEMPLATE**  
**ERROR**

## Explanation

The attempt by the extended product definition initializer to access the template file failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see the template file is correctly specified.

There might be a problem with the TEMPLATE ddname that specifies the PDS data set name.

Or there might be a problem with the PDS member name specified by the extended product definition keyword (TEMPLATE).

If the problem persists, run the initializer program with a log file and, if necessary, contact a system administrator or IBM Software Support.

<b>HKT2528E</b>	<b>LOCID=mmm RC=16 RSN=27</b> <b>R0=rrrrrrrr : INVALID INTERNAL FUNCTION</b>
-----------------	---

## Explanation

The internal driver function code for the extended product definition initializer was invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

Contact a system administrator or IBM Software Support.

<b>HKT2529E</b>	<b>LOCID=mmm RC=12 RSN=29</b> <b>R0=rrrrrrrr : INVALID EXTENDED FUNCTION</b>
-----------------	---

## Explanation

The extended product function passed to the initializer was invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

Currently the only extended function supported is LISTX.

Check the input commands to ensure that no other extended function is being called.

**Note:** This message does not apply to the standard functions such as ADDPROD, ADDRPT, and LIST.

<b>HKT2530E</b>	<b>LOCID=mmm RC=8 RSN=30</b> <b>R0=rrrrrrrr : EXTENDED FUNCTION NOT FOUND</b>
-----------------	--

## Explanation

This error is similar to HKT2529E.

This error is issued at a low level where the extended function cannot be found in the internal table.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to ensure that the extended function used is defined (as in HKT2529E).

Also, it is possible that the lower level lookup function is out of synch with the extended function processor.

In this case, the problem should be reported to a system administrator or IBM Software Support.

<b>HKT2531E</b>	<b>LOCID=mmm RC=8 RSN=31</b> <b>R0=rrrrrrrr : EXTENDED REPORT NOT OPEN</b>
-----------------	---

## Explanation

The extended output report file, OUTRPTX, could not be opened.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the OUTRPTX file is defined in the JCL with the correct attributes.

<b>HKT2532E</b>	<b>LOCID=mmm RC=12 RSN=32</b> <b>R0=rrrrrrrr : KEYWORD OR VALUE IS INVALID FOR THE GIVEN EXTENDED FUNCTION</b>
-----------------	---

## Explanation

The keyword, or keyword value, of an extended function was invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the input file to ensure that the keywords, or keyword values, for an extended function are correctly specified.

<b>HKT2533E</b>	<b>LOCID=mmm RC=12 RSN=33</b> <b>R0=rrrrrrrr : DUPLICATE KEYWORD SPECIFIED</b>
-----------------	---

## Explanation

A duplicate keyword or value was found for an extended product function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Remove any duplicate keyword or values from the input file.

---

**HKT2534E      LOCID=mmm RC=12 RSN=33**  
**R0=rrrrrrrr : DUPLICATE**  
**KEYWORD SPECIFIED**

## Explanation

A required keyword or value for an extended product function was missing.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that all specified extended product function in the input file have the require keyword or value specified.

---

**HKT2535I      LOCID=mmm RC=4 RSN=35**  
**R0=rrrrrrrr : PRODUCTID HAS NO**  
**ENTRIES**

## Explanation

There was no extended product data found for a given PRODUCTID.

## System action

Program returns to the caller with the error and reason codes.

## User response

This message is informational and indicates that the PRODUCTID does not have any extended data defined. A PRODUCTID is not required to contain extended data.

This message is also issued when an incorrect PRODUCTID was entered on the input command.

---

**HKT2536E      LOCID=mmm RC=12 RSN=36**  
**R0=rrrrrrrr : ERROR ACCESSING**  
**PRODUCT LIST**

## Explanation

An attempt to access the extended PRODUCT list from the repository failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Many internal issues, such as a lost connection, can cause this error. Try rerunning the job with a log file to obtain details.

If the problem persists, contact a system administrator.

---

**HKT2537E      LOCID=mmm RC=12 RSN=37**  
**R0=rrrrrrrr : READ OF DATA**  
**RECORD FAILED**

## Explanation

An attempt to read extended PRODUCT data from the repository failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Many internal issues, such as a lost connection, can cause this error. Try rerunning the job with a log file to obtain details.

If the problem persists, contact a system administrator.

---

**HKT2538E      LOCID=mmm RC=4 RSN=38**  
**R0=rrrrrrrr : DATA AREA IS NULL**  
**IN SIZE**

## Explanation

The data read for an extended product was null in size.

## System action

Program returns to the caller with the error and reason codes.

## User response

This might not be a problem. If you suspect it is a problem, check your extended product request and rerun the job with a log file.

If the problem persists, contact a system administrator.

---

**HKT2539E      LOCID=mmm RC=8 RSN=27**  
**R0=rrrrrrrr : OPEN FAILED FOR**  
**THE DSNDEF DD**

### Explanation

The product administration utility (HKTAPRA0) failed to open the data set defined by the DSNDEF DD statement.

### System action

Processing ends with a return code of 8.

### User response

Ensure that the attributes specified for the DSNDEF DD statement are correct.

---

**HKT2540E      LOCID=mmm RC=8 RSN=28**  
**R0=rrrrrrrr : A SYNTAX ERROR**  
**WAS FOUND IN THE DSNDEF DD**

### Explanation

One or more syntax errors were found while validating the syntax of the DSNDEF input.

### System action

Processing ends with a return code of 8.

### User response

Ensure that the correct parameter syntax is specified.

---

**HKT2541E      LOCID=mmm RC=8 RSN=29**  
**R0=rrrrrrrr : THE DSNDEF DD**  
**AND SAMPLE LIBRARY DD OR**  
**PRODUCT LIBRARY DD CANNOT**  
**BE SPECIFIED TOGETHER**

### Explanation

The DSNDEF DD statement was specified but the sample library DD, the product library DD, or both were also specified for an IMS Tools product.

### System action

Processing ends with a return code of 8.

### User response

Specify the sample library, product libraries, or both only in the DSNDEF DD.

---

**HKT2542E      LOCID=mmm RC=8 RSN=2A**  
**R0=rrrrrrrr : THE DYNALLOC**  
**SERVICE MODULE HKTUDYNO**  
**COULD NOT BE LOADED**

### Explanation

A dynalloc service that is loaded by the product administration utility (HKTAPRA0) failed the LOAD request.

### System action

Processing ends with a return code of 8.

### User response

Add the module that failed the LOAD request to the *hlq.SHKTLOAD* load library. If the module is in the library, you might have an install problem. Contact IBM Software Support.

---

**HKT2543E      LOCID=mmm RC=8 RSN=2B**  
**R0=rrrrrrrr : DYNALLOC SERVICE**  
**FAILED FOR FUNC=ALLOC**  
**DDNAME=ddname RC=return\_code**  
**RSN=reason\_code**

### Explanation

The product administration utility (HKTAPRA0) failed to allocate the data set for DD name *ddname*. The hexadecimal value *return\_code* is the return code from SVC99. The hexadecimal value *reason\_code* is the S99ERROR and S99INFO contents.

### System action

Processing ends with a return code of 8.

### User response

Look up the dynamic allocation (SVC99) code in the *z/OS MVS Programming: Authorized Assembler Services Guide*. Correct the problem, and rerun the job.

---

**HKT3002E      LOCID=mmm RC=0C RSN=02**  
**R0=rrrrrrrr : OUT OF SEQUENCE**

### Explanation

An incorrect function was passed by the internal client, or the function is out of sequence.

### System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is an internal error. Contact IBM Software Support.

**HKT3003E      LOCID=mmm RC=0C RSN=03  
R0=rrrrrrrr : INVALID PROCESS MODE**

## Explanation

An incorrect process mode was passed by the internal client.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is an internal error. Contact IBM Software Support.

**HKT3004E      LOCID=mmm RC=0C RSN=04  
R0=rrrrrrrr : IAV ACCESS FAILED**

## Explanation

An error occurred while the program was initializing the Autonomics Director repository environment.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

Verify that the Autonomics Director repository is connected to the server and is not stopped. If the problem persists, contact IBM Software Support.

**HKT3005E      LOCID=mmm RC=0C RSN=05  
R0=rrrrrrrr : INVALID REQUEST**

## Explanation

An incorrect data request was passed by the internal client.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is an internal error. Contact IBM Software Support.

**HKT3006E      LOCID=mmm RC=0C RSN=06  
R0=rrrrrrrr : RECON ACCESS FAILED**

## Explanation

An error occurred while the program was trying to obtain the list of RECON data sets that have been defined in the Input repository.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

Ensure that the RECON ID is correctly defined in the Input repository. If the problem persists, contact IBM Software Support.

**HKT3007E      LOCID=mmm RC=0C RSN=07  
R0=rrrrrrrr : LIST MEMBER FAILED**

## Explanation

An error occurred while the program was trying to access the list of Autonomics Director repository members.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact IBM Software Support.

**HKT3008E      LOCID=mmm RC=0C RSN=08  
R0=rrrrrrrr : GET MEMBER FAILED**

## Explanation

While the program was trying to obtain Autonomics Director repository members, an error occurred for a reason other than a "no members found" condition.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact IBM Software Support.

<b>HKT3009W</b>	<b>LOCID=mmm RC=04 RSN=09 R0=rrrrrrrr : GET MEMBER NOT FOUND</b>
-----------------	--

## Explanation

An error occurred while the program was trying to access the list of Autonomics Director repository members. There are no members to obtain from the Autonomics Director repository.

## System action

The program continues processing.

## User response

None. This is a warning message.

<b>HKT3010E</b>	<b>LOCID=mmm RC=0C RSN=0A R0=rrrrrrrr : GET MEMBER FAILED</b>
-----------------	---

## Explanation

An error occurred while the program was trying to locate Autonomics Director repository members.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact IBM Software Support.

<b>HKT3011W</b>	<b>LOCID=mmm RC=04 RSN=0B R0=rrrrrrrr : GET RECORD NOT FOUND</b>
-----------------	--

## Explanation

No member records were found in the Autonomics Director repository.

## System action

The program continues processing.

## User response

None. This is a warning message.

<b>HKT3012E</b>	<b>LOCID=mmm RC=0C RSN=0C R0=rrrrrrrr : RECORD DATA NOT ACQUIRED</b>
-----------------	--

## Explanation

An error occurred while the program was trying to obtain the data portion of member records for Autonomics Director repository members.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact IBM Software Support.

<b>HKT3013E</b>	<b>LOCID=mmm RC=10 RSN=0D R0=rrrrrrrr : READ OF INPUT FAILED</b>
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## Explanation

The program detected an error while processing a request message from the internal client.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the client.

## User response

This is an internal error. Contact IBM Software Support.

<b>HKT3014E</b>	<b>LOCID=mmm RC=10 RSN=0E R0=rrrrrrrr : SEND BAD ENVIRONMENT</b>
-----------------	--

## Explanation

During environment initialization, the program detected an error while sending a response message to the internal client.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the client.

## User response

This is an internal error. Contact IBM Software Support.

---

**HKT3015E**    **LOCID=mmm RC=0C RSN=0F**  
                 **R0=rrrrrrrr : LOGGING**  
                 **SPECIFICATION**

## Explanation

The logging function encountered an error.

## System action

The program returns an error.

## User response

Rerun the job, and if the problem persists, contact IBM Software Support.

---

**HKT3016E**    **LOCID=mmm RC=10 RSN=10**  
                 **R0=rrrrrrrr : SEND WRITE FAILED**

## Explanation

An error was detected while the program was processing a response message to the internal client.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the client.

## User response

This is an internal error. Contact IBM Software Support.

---

**HKT3017E**    **LOCID=mmm RC=0C RSN=11**  
                 **R0=rrrrrrrr : MEMBER DELETE**  
                 **FAILED**

## Explanation

An error occurred while the program was trying to delete Autonomics Director repository members.

## System action

The function requested by the internal client is rejected, and the return and reason codes that define the failure are returned to the internal client.

## User response

This is most likely a repository system error. Rerun the job with a log file. If the problem persists, contact IBM Software Support.

---

**HKT8000E**    **INCORRECT EXEC PARAMETER IS**  
                 **SPECIFIED.**

## Explanation

An incorrect EXEC parameter is specified for the IMS Tools Knowledge Base utility interface (HKTUTIL0).

## System action

Processing ends with a return code of 8.

## User response

Correct the EXEC parameter, and rerun the job.

---

**HKT8001I**    **THE *utility\_name* PROCESS HAS**  
                 **STARTED.**

## Explanation

The batch utility named *utility\_name* has started.

## System action

Processing continues.

## User response

None. This message is informational.

---

**HKT8002I**    **THE *utility\_name* PROCESS HAS**  
                 **ENDED NORMALLY.**

## Explanation

The batch utility named *utility\_name* has ended normally.

## System action

Processing continues.

## User response

None. This message is informational.

---

**HKT8003W THE *utility\_name* PROCESS HAS ENDED WITH WARNING.****Explanation**

The batch utility named *utility\_name* has ended with warnings.

**System action**

Processing ends with a return code of 4.

**User response**

Check another message whose suffix is W. If this is not the expected result, correct the error, and rerun the job.

---

**HKT8004E THE *utility\_name* PROCESS HAS ENDED WITH ERROR.****Explanation**

The batch utility named *utility\_name* has ended with errors.

**System action**

Processing ends with a return code of 8.

**User response**

Check another message whose suffix is E. Correct the error, and rerun the job.

---

**HKT8005E STORAGE OBTAIN FAILED. RC=*return\_code*, SIZE=*size*, MOD=*module*, ERROR\_ID=*error\_id*.****Explanation**

The batch utility failed to obtain storage.

***return\_code***

Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

***size***

Shows the size of the storage that could not be obtained.

***module***

Shows the name of the failed module.

***error\_id***

Shows the error ID that is associated with the module.

**System action**

Processing ends with a return code of 8.

**User response**

Increase the REGION size on the JOB statement in the JCL, and rerun the utility.

---

**HKT8006E STORAGE RELEASE FAILED. RC=*return\_code*, SIZE=*size*, MOD=*module*, ERROR\_ID=*error\_id*.****Explanation**

The batch utility failed to release storage. In the message text,

***return\_code***

Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

***size***

Shows the size of the storage that could not be released.

***module***

Shows the name of the failed module.

***error\_id***

Shows the error ID that is associated with the module.

**System action**

Processing ends with a return code of 8.

**User response**

This error might be an internal system error. Contact IBM Software Support.

---

**HKT8007E OPEN FAILED. DDNAME=*ddname*. RC=*return\_code*.****Explanation**

The batch utility failed to open the data set that is specified by the *ddname* DD. The hexadecimal value *return\_code* is the return code from the OPEN macro.

**System action**

Processing ends with a return code of 8.

## User response

See *z/OS DFSMS Macro Instructions for Data Sets* to determine the meaning of the return code. If the problem persists, contact IBM Software Support.

**HKT8009E DYNALLOC SERVICE FAILED FOR FUNC=[ALLOC | UNALLOC], [DDNAME=ddname | DSNAME=dsname], RC=return\_code, RSN=reason\_code.**

## Explanation

The batch utility failed to allocate or deallocate the data set for DD name *ddname* or the data set named *dsname*. The hexadecimal value *return\_code* is the return code from SVC99. The hexadecimal value *reason\_code* is the S99ERROR and S99INFO contents.

## System action

Processing ends with a return code of 8.

## User response

Look up the dynamic allocation (SVC99) code in *z/OS MVS Programming: Authorized Assembler Services Guide*. Correct the problem, and rerun the job.

**HKT8010E UTILITY ENDED WITH ERROR. RC=return\_code, RSN=reason\_code.**

## Explanation

The IMS Tools Knowledge Base interface (HKTUTIL0) ended with an error. Hexadecimal values *return\_code* and *reason\_code* indicate the return and reason codes from the requested function, respectively.

## System action

Processing ends with a return code of 8.

## User response

This message might be accompanied by other error messages. If the accompanying messages exist, follow the directions in the user response sections of the accompanying messages. If no messages are accompanied, contact IBM Software Support.

**HKT8011E ERRORS DETECTED WHILE text**

## Explanation

The batch utility encountered errors during its processing.

*text* indicates one of the following texts:

- ANALYZING INPUT PARAMETERS
- ANALYZING LOAD MODULES
- GENERATING REPORTS

## System action

Processing ends with a return code of 8.

## User response

Check the message whose suffix is E in the Journal Messages report. Correct the error, and rerun the job.

**HKT8012E LOAD FAILED. MODULE=modname, SC=code, RSN=reason\_code.**

## Explanation

The batch utility failed to load the module named *modname*. The hexadecimal value *code* is the abend code, and the hexadecimal value *reason\_code* is the reason code associated with the abend.

## System action

Processing ends with a return code of 8.

## User response

Check if the correct load module library is specified in the STEPLIB DD statement.

**HKT8013E CONNECTION TO THE ITKB SERVER FAILED. NAME=servername.**

## Explanation

The connection to the IMS Tools KB server failed. This message might be issued for the following reasons:

- The server configuration is incomplete.
- The server is not started.
- The server XCF group name that is specified by the ITKBSRVR keyword is incorrect.
- Insufficient access authority to the repository.

## System action

Processing ends with a return code of 8.

## User response

Complete the following steps:

1. Ensure that the server XCF group name specified on the ITKBSRVR keyword is correct.
2. Ensure that the IMS Tools KB server is configured and started without any errors. For configuration steps, see the topic "Configuring IMS Tools Knowledge Base" in the *IMS Tools Base Configuration Guide*.

If the problem persists, contact your system administrator to obtain the required level of authorization.

<b>HKT8014E</b>	<b>SPECIFIED RECON ID IS NOT DEFINED IN REPOSITORY. RECON ID=recon_id.</b>
-----------------	--

## Explanation

The batch utility failed to retrieve the RECON ID from the IMS Tools KB Input repository.

## System action

Processing ends with a return code of 8.

## User response

Ensure that the RECONID parameter of ITBKSRVR keyword specifies the correct RECON ID. Also, ensure that the RECON data set name is registered with IMS Tools KB.

<b>HKT8015E</b>	<b>UNABLE TO OBTAIN RECON ID FROM REPOSITORY. RECON ID=recon_id, RC=return_code, RSN=reason_code.</b>
-----------------	---

## Explanation

The batch utility failed to retrieve the RECON ID from the IMS Tools KB Input repository. Hexadecimal values *return\_code* and *reason\_code* are the return code and the reason code from the RECON ID retrieval module.

## System action

Processing ends with a return code of 8.

## User response

Ensure that the RECONID parameter of ITKBSRVR keyword specifies the correct RECON ID. Also, ensure that the RECON data set name is registered with IMS Tools Knowledge Base. If the problem persists, contact IBM Software Support.

<b>HKT8019E</b>	<b>ESTAE FAILED. RC=return_code, MOD=modname.</b>
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## Explanation

The ESTAE request issued by the batch utility failed. The hexadecimal value *return\_code* is the return code of the ESTAE macro. *modname* is the module name that requested the ESTAE macro.

## System action

Processing ends with a return code of 8.

## User response

Contact IBM Software Support.

<b>HKT8020E</b>	<b>INTERNAL ERROR OCCURRED IN MODULE modname, CODE=code</b>
-----------------	---

## Explanation

The batch utility encountered an internal error. *modname* is the name of the module that encountered the error. *code* is the information code associated with the error.

## System action

Processing ends with a return code of 8.

## User response

This error might be an internal system error. Contact IBM Software Support.

<b>HKT8021E</b>	<b>SENSOR DATA SERVICE FAILED FOR FUNC=function, RC=return_code, RSN=reason_code.</b>
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## Explanation

The batch utility failed to export sensor data by using the Sensor Data Service API. *function* is the function code of the Sensor Data Service API. Hexadecimal values *return\_code* and *reason\_code* are the return code and the reason code from the Sensor Data Service API.

## System action

Processing ends with a return code of 8.

## User response

Contact IBM Software Support.

<b>HKT8023E</b>	<b>DATA DICTIONARY SERVICE FAILED FOR FUNC=<i>function</i>, RC=<i>overall_return_code</i>, RSN=<i>overall_reason_code</i>.</b>
	<b>- DATA ELEMENT: <i>data_element_name</i>, RC=<i>return_code</i>, RSN=<i>reason_code</i>.</b>
	<b>- DATA VALUE: <i>data_element_value</i></b>

## Explanation

An error was detected when the indicated function *function* of the Data Dictionary Service was running. If the error was detected in specific data elements, the second line of the HKT8023E message is issued. If the error was detected in a data value of a specific data element, the third line of the HKT8023E message is issued.

In the message text:

***overall\_return\_code***  
***overall\_reason\_code***

These hexadecimal values indicate the return and reason codes from the Data Dictionary Service.

***data\_element\_name***

The name of the data element that caused the error.

***return\_code***

***reason\_code***

These hexadecimal values indicate the return and reason codes associated with the data element.

***data\_element\_value***

The value of the data element that caused the error.

## System action

Processing ends with a return code of 8.

## User response

Look up the meaning of return and reason codes in the *IMS Tools Base Policy Services User's Guide and Reference* and correct the error. If the problem persists, contact IBM Software Support.

<b>HKT8024W</b>	<b>DATA DICTIONARY SERVICE FAILED FOR FUNC=<i>function</i>, RC=<i>overall_return_code</i>, RSN=<i>overall_reason_code</i>.</b>
	<b>- DATA ELEMENT: <i>data_element_name</i>, RC=<i>return_code</i>, RSN=<i>reason_code</i>.</b>
	<b>- DATA VALUE: <i>data_element_value</i></b>

## Explanation

An error was detected when the indicated function *function* of the Data Dictionary Service was running. Hexadecimal values *overall\_return\_code* and *overall\_reason\_code* indicate the return and reason codes from the Data Dictionary Service, respectively.

If the error was detected in specific data elements, the second line of the HKT8024W message is issued. *data\_element\_name* is the name of the data element that caused the error. Hexadecimal values *return\_code* and *reason\_code* indicate the return and reason codes associated with the data element, respectively.

## System action

Processing continues with a return code of 4.

## User response

Look up the meaning of return and reason codes in the *IMS Tools Base Policy Services User's Guide and Reference* and correct the error. If the problem persists, contact IBM Software Support.

<b>HKT8030E</b>	<b>AN ERROR WAS DETECTED WHILE ANALYZING THE CONTROL STATEMENT. RC=<i>return_code</i>, FUNC=<i>function</i>.</b>
	<b>DETAIL OF THE ERROR IS AS FOLLOWS: ...</b>

## Explanation

The control statement analysis process detected a syntax error in the control statement. Review the other generated message, BPE0003E, which explains the details of the error.

## System action

Processing ends with a return code of 8.

## User response

Correct the control statement, and rerun the job.

<b>HKT8031I</b>	<b>THE FOLLOWING OPTIONS ARE USED FOR THE DATA PUBLISHER UTILITY:</b>
	<b>- <i>keyword_name1</i> ... <i>value1</i></b> <b>- <i>keyword_name2</i> ... <i>value2</i> ...</b>

## Explanation

This message shows individual processing options of the Data Publisher Utility on each line. This message is for informational purposes only.

## System action

Processing continues.

## User response

None. This message is informational.

---

<b>HKT8032E</b>	<b>THE VALUE <i>value</i> IS INCORRECT FOR THE <i>keyword</i> KEYWORD.</b>
-----------------	--

## Explanation

The parameter value specified by the keyword *keyword* is not in the correct format.

## System action

Processing ends with a return code of 8.

## User response

Correct the control statement, and rerun the job.

---

<b>HKT8034E</b>	<b><i>keyword1</i> KEYWORD MUST BE SPECIFIED WITH [<i>keyword2</i>   <i>keyword2</i>(<i>parameter</i>)].</b>
-----------------	--

## Explanation

The keyword *keyword1* was specified. However, the keyword *keyword2* or the parameter *keyword2*(*parameter*), which is required for *keyword1*, was not specified.

## System action

Processing ends with a return code of 8.

## User response

Correct the control statement, and rerun the job.

---

<b>HKT8035E</b>	<b><i>keyword1</i> KEYWORD AND <i>keyword2</i> KEYWORD ARE MUTUALLY EXCLUSIVE.</b>
-----------------	--

## Explanation

The keyword *keyword1* was specified with the keyword *keyword2*. These keywords cannot be specified simultaneously.

## System action

Processing ends with a return code of 8.

## User response

Correct the control statement, and rerun the job.

---

## HKT8037E

**INCORRECT VALUE IS SPECIFIED FOR THE TIMESTAMP KEYWORD.  
RC=*return\_code*.**

## Explanation

The parameter value specified by the TIMESTAMP keyword is not in the correct format. The parameter value must be in *yyyy-mm-dd.hh:mm:ss* format.

## System action

Processing ends with a return code of 8.

## User response

Correct the control statement, and rerun the job.

---

## HKT8040I

**SENSOR DATA FOR *dbname* HAS BEEN EXPORTED, THE NUMBER OF EXPORTED GENERATION IS *generation\_number***

## Explanation

The requested sensor data was exported successfully from the IMS Tools KB Sensor Data repository. *dbname* shows the DBD name whose sensor data was exported. *generation\_number* shows how many generations of sensor data were exported.

## System action

Processing continues.

## User response

None. This message is informational.

---

## HKT8069E

**UNSUPPORTED *msg\_text***

## Explanation

The batch utility does not support the requested database or input sensor data format.

In the message text, *msg\_text* can be one of the following:

- DATABASE TYPE. DBTYPE=*database\_type*.
- INPUT FORMAT.

## System action

Processing ends with a return code of 8.

## User response

This error might be an internal system error.  
Contact IBM Software Support.

**FUNC=***function*, **RC=***return\_code*,  
**RSN=***reason\_code*.

<b>HKT8070E</b>	<b>NO SENSOR DATA ARE FOUND IN THE REPOSITORY.</b>
-----------------	--

## Explanation

No sensor data are stored in the repository.

## System action

Processing ends with a return code of 8.

## User response

Ensure that sensor data exist in the repository.

<b>HKT8071E</b>	<b>NO DATA FOUND WITHIN THE SPECIFIED CRITERIA.</b>
-----------------	---

## Explanation

No members in the Sensor Data repository matched the specified criteria.

## System action

Processing ends with a return code of 8.

## User response

Ensure that the timestamp range criteria are specified correctly.

<b>HKT8072E</b>	<b>SENSOR DATA LIST SERVICE FAILED FOR</b>
-----------------	--

## Explanation

The batch utility failed to export sensor data by using the Sensor Data Service API. *function* is the function code of the Sensor Data Service API. Hexadecimal values *return\_code* and *reason\_code* are the return code and the reason code from the Sensor Data Service API.

## System action

Processing ends with a return code of 8.

## User response

Ensure that the Sensor Data repository is started. If the problem persists, contact IBM Software Support.

<b>HKT8073W</b>	<b>SPECIFIED DBDNAME IS NOT FOUND IN REPOSITORY.</b> - <b>DBDNAME=</b> <i>dbd_name</i> [ <b>PARTNAME=</b> <i>part_name</i>   <b>AREANAME=</b> <i>area_name</i> ] <b>RECON</b> <b>ID=</b> <i>recon_id</i>
-----------------	--

## Explanation

No members in the Sensor Data repository matched the specified database.

## System action

Processing ends with a return code of 4.

## User response

Ensure that the database name is specified correctly.



# Chapter 21. HKTD error messages (discovery utility)

This reference section provides detailed information about the error messages issued by the IMS Tools discovery utility.

## Message format

IMS Tools discovery utility messages adhere to the following format:

HKTD`nnnx`

where:

### HKTD

Indicates that the message was issued by IMS Tools discovery utility

### nnn

Indicates the message identification number

### x

Indicates the severity of the message:

#### A

Indicates that operator intervention is required before processing can continue.

#### E

Indicates that an error occurred, which might or might not require operator intervention.

#### I

Indicates that the message is informational only.

#### W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

### Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

### System action:

The System action section explains what the system will do in response to the event that triggered this message.

### User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

**HKTD101E**    **STARTDBRC FAILURE, RC=rc,**  
                 **RSN=rsn**

### Explanation

The discovery API issued a DBRC API request with FUNC=STARTDBRC, but the DBRC API did not complete processing.

### System action

The discovery API ends with a return code of 8.

### User response

Check the return and reason codes in the message by referring to *IMS System Programming APIs*, fix the errors, and rerun the job. If the problem persists, contact IBM Software Support.

**HKTD102E**    **STOPDBRC FAILURE, RC=rc,**  
                 **RSN=rsn**

### Explanation

The discovery API issued a DBRC API request with FUNC=STOPDBRC, but the DBRC API did not complete processing.

## System action

The discovery API ends with a return code of 8.

## User response

Check the return and reason codes in the message by referring to *IMS System Programming APIs*, fix the errors, and rerun the job. If the problem persists, contact IBM Software Support.

---

**HKTD470E      HKTRERD I-call failed**

## Explanation

The Discovery Utility made an I-call to HKTRERD and received a non-zero return code.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD471E      No RECONID found in ITKB**

## Explanation

The Discovery Utility made an I-call to HKTRERD and no RECON ID record was found in IMS Tools Knowledge Base.

## System action

The job abends with U4075.

## User response

Ensure that at least one RECON ID exists in IMS Tools Knowledge Base. If the problem persists, Contact IBM Software support and provide the job log.

---

**HKTD472E      HKTRERD G-call failed**

## Explanation

The Discovery Utility made a G-call to HKTRERD and received a non-zero return code.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD473E      RECONID not found in ITKB**

## Explanation

The Discovery Utility could not locate a RECON ID.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD474E      HKTRERD C-call failed**

## Explanation

The Discovery Utility made a C-call to HKTRERD and received a non-zero return code.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD475E      Dynamic allocation failed for  
ddname RC=rr RSN=eeeeiiii**

## Explanation

The Discovery Utility failed to dynamically allocate the *ddname*.

In the message text,

*rr*      Return code from SVC99

*eeee*      Error reason code (S99ERROR)

*iiii*      Information reason code (S99INFO)

## System action

The job abends with U4075.

## User response

Correct the error and rerun the job. The return codes and the reason codes are described in *z/OS MVS Programming: Authorized Assembler Services Guide*. If the problem persists, contact IBM Software support and provide the job log.

---

**HKTD476E      nnnnnnnn PARAMETER NOT  
FOUND**

## Explanation

The required *nnnnnnnn* parameter is not found.

## System action

The job abends with U4075.

## User response

Add the required parameter to the JCL and rerun the job.

---

**HKTD477E FAIL TO CONNECT TO HKT\_INPUT REPOSITORY**

## Explanation

The Discovery Utility failed to connect to HKT\_INPUT repository.

## System action

The job abends with U4075.

## User response

Verify that the IMS Tools KB server name that is specified on the ITKBSERV= parameter is valid and that the IMS Tools KB server is active. If the problem persists, contact IBM software support.

---

**HKTD478E DSI INIT-CALL FAILED**

## Explanation

The Discovery Utility failed to initialize the Discovery Service Interface.

## System action

The job abends with U4075.

## User response

Verify that the RECON data sets and DBDLIB are accessible. If the problem persists, Contact IBM Software support and provide the job log.

---

**HKTD479E DSI DBDDIR-CALL FAILED**

## Explanation

The Discovery Utility called the Discovery Service Interface to retrieve the DBDLIB directory, and received a non-zero return code.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD480E DSI NO BUFFER RETURN**

## Explanation

The Discovery Utility called the Discovery Service Interface to retrieve the DBDLIB directory entries, and no buffer was returned.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD481I NO DBD FOUND**

## Explanation

The Discovery Utility called the Discovery Service Interface to retrieve the DBDLIB directory entries, and the buffer did not contain any entries.

## System action

Processing continues.

## User response

Verify that no databases entries are defined in the DBDLIB.

---

**HKTD482E DSI DBITKB-CALL FAILED**

## Explanation

The Discovery Utility called the Discovery Service Interface to create the database record ready to be stored in the IMS Tools Knowledge Base repository, and received a non-zero return code.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD483E ITKB CREATE-MEMBER FAILED**

## Explanation

The Discovery Utility failed to create a member in the IMS Tools Knowledge Base repository.

**System action**

The job abends with U4075.

**User response**

Contact IBM Software support and provide the job log.

---

**HKTD484E ITKB LOCATE-MEMBER FAILED****Explanation**

The Discovery Utility failed to locate a member in IMS Tools Knowledge Base repository.

**System action**

The job abends with U4075.

**User response**

Contact IBM Software support and provide the job log.

---

**HKTD485E ITKB DELETE-MEMBER FAILED****Explanation**

The Discovery Utility failed to delete a member in IMS Tools Knowledge Base repository.

**System action**

The job abends with U4075.

**User response**

Contact IBM Software support and provide the job log.

---

**HKTD486E ITKB ADD-REC FAILED****Explanation**

The Discovery Utility failed to add a record to a member in IMS Tools Knowledge Base repository.

**System action**

The job abends with U4075.

**User response**

Contact IBM Software support and provide the job log.

---

**HKTD487E ITKB WRITE-MEMBER FAILED****Explanation**

The Discovery Utility failed to write a member in IMS Tools Knowledge Base repository.

**System action**

The job abends with U4075.

**User response**

Contact IBM Software support and provide the job log.

---

**HKTD488E DSI RELBUFF-CALL FAILED****Explanation**

The Discovery Utility called Discover Service Interface to release a buffer and received a non-zero return code.

**System action**

The job abends with U4075.

**User response**

Contact IBM Software support and provide the job log.

---

**HKTD489I NUMBER OF DB *action* WAS  
nnnnnnnn****Explanation**

The Discovery Utility has discovered or deleted databases. In the message text:

*nnnnnnnn*

Number of databases

*action*

Discovered or deleted

**System action**

Processing continues.

**User response**

Verify that the number of databases discovered or deleted is correct.

---

**HKTD490I NUMBER OF DBRC GROUPS *action*  
WAS nnnnnnnn****Explanation**

The Discovery Utility has discovered or deleted DBRC groups. In the message text:

*nnnnnnnn*

Number of databases

*action*

Discovered or deleted

## **System action**

Processing continues.

## **User response**

Verify that the number of DBRC groups discovered or deleted is correct.

---

**HKTD491E DSI GPITKB-CALL FAILED**

## **Explanation**

The Discovery Utility called the Discovery Service Interface to create the DBRC group record to be stored in the IMS Tools Knowledge Base repository, and received a non-zero return code.

## **System action**

The job abends with U4075.

## **User response**

Contact IBM Software support and provide the job log.

---

**HKTD494W VALIDATION FAILED - DBD  
nnnnnnnn SKIPPED**

## **Explanation**

The Discovery Utility found an invalid DBD.

## **System action**

The database for the invalid DBD is not stored in the IMS Tools Knowledge Base INPUT repository.

## **User response**

Fix the invalid DBD by running the DBDGEN again.

---

**HKTD495E ITKB BEGIN\_LIST FAILED**

## **Explanation**

The Discovery Utility attempted BEGLIST processing for the IMS Tools Knowledge Base repository, but the attempt failed.

## **System action**

The job ends abnormally with abend code U4075.

## **User response**

Contact IBM Software Support and provide them with the job log.

---

**HKTD496E ITKB GET\_LIST FAILED**

## **Explanation**

The Discovery Utility attempted to retrieve a list from the IMS Tools Knowledge Base repository, but the attempt failed.

## **System action**

The job ends abnormally with abend code U4075.

## **User response**

Contact IBM Software Support and provide them with the job log.

---

**HKTD497E ITKB END\_LIST FAILED**

## **Explanation**

The Discovery Utility attempted ENDLIST processing for the IMS Tools Knowledge Base repository, but the attempt failed.

## **System action**

The job ends abnormally with abend code U4075.

## **User response**

Contact IBM Software Support and provide them with the job log.

---

**HKTD499E DSI PSBDIR-CALL FAILED**

## **Explanation**

The Discovery Utility called the Discovery Service Interface to retrieve the PSBLIB directory, and received a non-zero return code.

## **System action**

The job abends with U4075.

## **User response**

Contact IBM Software support and provide the job log.

---

**HKTD501I NO PSB FOUND**

## **Explanation**

The Discovery Utility called the Discovery Service Interface to retrieve the PSBLIB directory entries, and the buffer did not contain any entries.

## **System action**

Processing continues.

## User response

Verify that no PSB entries are defined in the PSBLIB.

---

**HKTD502E DSI PSBITKB-CALL FAILED**

## Explanation

The Discovery Utility called the Discovery Service Interface to create the program record ready to be stored in the IMS Tools Knowledge Base repository, and received a non-zero return code.

## System action

The job abends with U4075.

## User response

Contact IBM Software support and provide the job log.

---

**HKTD509I NUMBER OF PSB *action* WAS  
nnnnnnnn**

## Explanation

The Discovery Utility has discovered or deleted program specification blocks (PSB). In the message text:

**nnnnnnnn**  
Number of PSBs

***action***  
Discovered or Deleted

## System action

Processing continues.

## User response

Verify that the number of PSBs discovered or deleted is correct.

---

**HKTD514W VALIDATION FAILED - PSB  
nnnnnnnn SKIPPED**

## Explanation

The Discovery Utility found an invalid PSB.

## System action

The invalid PSB is not stored in IMS Tools Knowledge Base INPUT repository.

## User response

Fix the invalid PSB by running the PSBGEN again.

---

**HKTD515E INCOMPATIBLE REPOSITORIES  
ARE DETECTED**

## Explanation

Inappropriate repositories are found.

## System action

The job abends with U4075.

## User response

Check if the connected IMS Tools Knowledge Base server and repositories are correct. If they are correct, make sure that the repository conversion process has been properly completed. If not, migrate the repositories from IMS Tools Base 1.6 to 1.7 again.

# Chapter 22. HKT<sub>M</sub> and HKT<sub>X</sub> error messages (internal data access APIs)

This reference section provides detailed information about the error messages issued by the internal data access APIs for IMS Tools Knowledge Base repositories. For information about how to troubleshoot these problems, call IBM Software Support.

## Message format

Messages for the internal data access APIs for IMS Tools Knowledge Base repositories adhere to the following format:

HKT<sub>a</sub>nnnx

where:

**HKT**

Indicates that the message was issued by internal data access APIs for IMS Tools Knowledge Base repositories

**a**

Indicates the specific API that the message is coming from:

- **M** indicates that the message is coming from an internal import API.
- **X** indicates that the message is coming from an internal export API.

**nnn**

Indicates the message identification number

**x**

Indicates the severity of the message:

**A**

Indicates that operator intervention is required before processing can continue.

**E**

Indicates that an error occurred, which might or might not require operator intervention.

**I**

Indicates that the message is informational only.

**W**

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

### Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

### System action:

The System action section explains what the system will do in response to the event that triggered this message.

### User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

**HKT<sub>M</sub>001E**    **LOCID=mmm RC=10 RSN=01**  
                 **R0=rrrrrrrr : NULL PARAMETER**  
                 **LIST**

### Explanation

A NULL parameter list was pass to the HKTIMST processor (for example, GPR R1=0)

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that access is through the HKTIMST macro is correctly specified.

---

**HKTM002E**    **LOCID=mmm RC=10 RSN=02**  
**R0=rrrrrrrr : ALREADY**  
**INITIALIZED**

## Explanation

The caller is attempting to initialize an already initialized HKTIMST environment.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the environment is initialized once and only once.

Check to see that before the initialization call, the token is set to zero.

If an environment is terminated, ensure that the token is set to zero.

If you wish to have more than one environment active at the same time, ensure that each of these environments uses a unique token.

---

**HKTM003E**    **LOCID=mmm RC=10 RSN=03**  
**R0=rrrrrrrr : NULL LOG TOKEN FOR**  
**FUNCTION**

## Explanation

The caller is attempting to process an HKTIMST function, other than an INITIAL or a TERM function, with an uninitialized environment.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the environment was initialized and not terminated prior to the function call.

**HKTM004E**

**LOCID=mmm RC=10 RSN=04**  
**R0=rrrrrrrr : INVALID FUNCTION**  
**SPECIFIED**

## Explanation

The invocation of the call to HKTIMST contained an invalid function name.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the function name is valid or has not been corrupted.

**HKTM005E**

**LOCID=mmm RC=10 RSN=05**  
**R0=rrrrrrrr : BAD PROCESSING**  
**STATE**

## Explanation

The state of a valid function was improperly invoked.

This probably was caused by calling a non-initial nor non-term type function without successfully initializing the HKTIMST environment.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that for all functions of a given HKTIMST environment, excluding initial or term, are issued after a successful initialization and before a termination function.

**HKTM006E**

**LOCID=mmm RC=08 RSN=06**  
**R0=rrrrrrrr : DATA TRUNCATED**

## Explanation

The user AREA supplied in the HKTIMST ACCDATA or GETMLST function was not large enough to hold the requested data.

## System action

Program returns to the caller with the error and reason codes.

## User response

The application should use the COUNT field as described to determine the size that is needed and then rerun.

It is possible that this process could require multiple retries.

---

<b>HKT007E</b>	<b>LOCID=mmm RC=0C RSN=07</b> <b>R0=rrrrrrrr : LOCATE RECORD FAILED</b>
----------------	--

## Explanation

For the HKTIMST ACCDATA function, attempting to locate a record, either the first or next, failed - other than an end of records condition.

## System action

Program returns to the caller with the error and reason codes.

## User response

This is probably an environmental error. Ensure that the sensor data repository is still available and has not been damaged.

---

<b>HKT008E</b>	<b>LOCID=mmm RC=0C RSN=08</b> <b>R0=rrrrrrrr : TOOL NAME IS MISSING</b>
----------------	--

## Explanation

The HKTIMST initialization function is missing the TOOL value, which is needed to retrieve the instrumentation data.

## System action

Program returns to the caller with the error and reason codes.

## User response

Correct the initialization function to include a TOOL name.

---

<b>HKT009E</b>	<b>LOCID=mmm RC=0C RSN=09</b> <b>R0=rrrrrrrr : DATAPART IS MISSING</b>
----------------	---

## Explanation

The HKTIMST initialization function is missing the DATAPART value, which is needed to retrieve the instrumentation data.

## System action

Program returns to the caller with the error and reason codes.

## User response

Correct the initialization function to include a DATAPART name.

---

<b>HKT010I</b>	<b>LOCID=mmm RC=04 RSN=0A</b> <b>R0=rrrrrrrr : EMPTY MEMBER LIST</b>
----------------	---

## Explanation

The HKTIMST function GETMLST or GETMEXT could not find any matching members.

## System action

Program returns to the caller with the error and reason codes.

## User response

If this is a valid result, no action is required.

If not, check the key of the requested members to retrieve.

---

<b>HKT011E</b>	<b>LOCID=mmm RC=0C RSN=0B</b> <b>R0=rrrrrrrr : GROUP NAME MISSING</b>
----------------	--

## Explanation

The repository GROUP name, which is used to connect to the repository that contains the instrumentation data, is missing from the HKTIMST initialization function.

During the initialization function process, a GROUP name must be supplied to connect to the repository that contains the instrumentation data.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that a valid GROUP name is included on the HKTIMST initialization function.

---

<b>HKT012E</b>	<b>LOCID=mmm RC=0C RSN=0C</b> <b>R0=rrrrrrrr : REPOSITORY INIT FAILED</b>
----------------	--

## Explanation

Access or connection to the sensor data repository: BSN\_SENSOR failed. Any one of the following conditions might have caused the error:

- An incorrect IMS Tools KB server XCF group name was specified.
- The specified IMS Tools KB server is inactive.
- The Sensor Data repository data set is full.
- There is an error for the specified IMS Tools KB server.
- The region size for the job is too small.

## System action

Program returns to the caller with the error and reason code.

## User response

Check to see that the sensor data repository has been started.

Check to see that the correct GROUP name has been supplied.

If RACF is in effect, make sure that the user has authority. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKT013E      LOCID=mmm RC=0C RSN=0D  
R0=rrrrrrrr : BEGIN LIST FAILED**

## Explanation

Other than a null list, attempting to establish list access through the HKTIMST function BEGLIST failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the parameters for the BEGLIST were correctly specified.

Also, check that access to the sensor data repository was still viable. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKT014E      LOCID=mmm RC=0C RSN=0E  
R0=rrrrrrrr : GET MEMBER LIST  
ERROR**

## Explanation

There was an invalid parameter, or a required parameter missing, to do an internal GETLIST function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the parameters for ACCDATA, ACCDATA EXTENDED (ACCDEXT), ACCESS INDEX (ACCINDX), GET MEMBER LIST (GETMLIST), or GET MEMBER LIST EXTENDED (GETMEXT) were correctly specified.

Also, ensure that access to the sensor data repository was still viable. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKT015E      LOCID=mmm RC=0C RSN=0F  
R0=rrrrrrrr : MEMBER ACCESS  
ERROR**

## Explanation

An attempt to access a member in an access type function failed.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the reference parameters for a member regarding ACCDATA, ACCDATA EXTENDED (ACCDEXT), or ACCESS INDEX (ACCINDX) were correctly specified.

Also, ensure that access to the sensor data repository was still viable. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKT016E      LOCID=mmm RC=0C RSN=10  
R0=rrrrrrrr : COUNT MISSING**

## Explanation

The required COUNT parameter was missing in a GET list type function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the required COUNT parameter is specified for the GET MEMBER LIST (GETLIST) or the GET MEMBER LIST EXTENDED (GETMEXT) function.

---

**HKTM017E**    **LOCID=mmm RC=0C RSN=11**  
                 **R0=rrrrrrrr : INVALID VORDER**  
                 **SETTING**

## Explanation

The optional VORDER (version order) parameter had an invalid value.

Valid values are H (high), L (low), or blank for default.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the VORDER specified in GET MEMBER LIST (GETMLIST) or GET MEMBER LIST EXTENDED (GETMEXT) has a correct value.

---

**HKTM018E**    **LOCID=mmm RC=0C RSN=12**  
                 **R0=rrrrrrrr : AREA VARIABLE**  
                 **ERROR**

## Explanation

A required AREA parameter is missing in the current function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the AREA variable is specified with the current function.

---

**HKTM019E**    **LOCID=mmm RC=0C RSN=13**  
                 **R0=rrrrrrrr : LENGTH VARIABLE**  
                 **ERROR**

## Explanation

The required LENGTH parameter is missing or has an invalid value, such as a negative value, in the current function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the LENGTH variable is specified correctly with the current function.

---

**HKTM020E**    **LOCID=mmm RC=0C RSN=14**  
                 **R0=rrrrrrrr : COUNT VARIABLE**  
                 **ERROR**

## Explanation

A required COUNT parameter is missing in the current function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the COUNT variable is specified.

---

**HKTM021E**    **LOCID=mmm RC=0C RSN=15**  
                 **R0=rrrrrrrr : INVALID DELETE**  
                 **OPTION**

## Explanation

The INTENT delete option with the ACCESS DATA or ACCESS DATA EXTENDED function has an invalid value.

## System action

Program returns to the caller with the error and reason codes.

## User response

If the INTENT option is specified, be sure the value specified is either M (for memory) or B (for both repository and memory).

---

**HKTM022E**    **LOCID=mmm RC=0C RSN=16**  
                 **R0=rrrrrrrr : INVALID SYNCH**  
                 **SPECIFICATION**

## Explanation

The INTENT synchronize option with the SYNCH function has an invalid value.

## System action

Program returns to the caller with the error and reason code.

## User response

If the INTENT option is specified, be sure that the value specified is either Synch, Read lock, Update lock, Commit, Back out, or Test.

<b>HKTM023E</b>	<b>LOCID=mmm RC=0C RSN=17</b> <b>R0=rrrrrrrr : FIELD DESCRIPTOR EXCEPTION</b>
-----------------	--

## Explanation

At least one of the function FIELD parameters (FIELDS, AREA, or LENGTH) was missing or incorrectly defined.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that FIELD parameters are defined and have valid values.

<b>HKTM024I</b>	<b>LOCID=mmm RC=04 RSN=18</b> <b>R0=rrrrrrrr : NO FIELD OR DESCRIPTORS</b>
-----------------	---

## Explanation

Informational or warning that the count of the number of field or descriptors (HDFLDCT in the header) requested was zero.

## System action

Program returns to the caller with the error and reason codes.

## User response

This is a warning/informational message.

If the user requests more than zero, then the HDFLDCT, along with the number of fields following, should be increased.

<b>HKTM025E</b>	<b>LOCID=mmm RC=08 RSN=19</b> <b>R0=rrrrrrrr : NOT FOUND FIELD ENTRY</b>
-----------------	---

## Explanation

At least one of the FIELD entries of a FIELD request was not found.

This might or might not be an error depending on the logic of the program.

## System action

Program returns to the caller with the error and reason code.

## User response

If this is in error, ensure that the FIELD entry is defined.

<b>HKTM026E</b>	<b>LOCID=mmm RC=0C RSN=1A</b> <b>R0=rrrrrrrr : DYNAMIC STORAGE EXCEPTION</b>
-----------------	---

## Explanation

An error occurred with internally allocated storage used by the caller.

This is storage used by GETMEXT, ACCDEXT, DELETE functions.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the reference of this storage is correct, or that the storage has been successfully allocated and not prematurely deleted (RELEASED), or that the reference address is correct.

<b>HKTM027E</b>	<b>LOCID=mmm RC=04 RSN=1B</b> <b>R0=rrrrrrrr : RELEASE OF NULL POINTER</b>
-----------------	---

## Explanation

An attempt was made to release internal storage by using a NULL pointer.

A NULL pointer can be used to ensure that storage is released. The storage pointer might have been zeroed out accidentally.

## System action

Program returns to the caller with the error and reason codes.

## User response

This warning/informational message might or might not be correct.

You can attempt to RELEASE already released storage as a catch all.

---

**HKTM028E**    **LOCID=mmm RC=0C RSN=1C**  
                 **R0=rrrrrrrr : HISTORY**  
                 **SPECIFICATION ERROR**

## Explanation

An attempt to SET or GET HISTORY for pertinent members failed.

This can be, for example, due to the user's RACF authorization to SET HISTORY, or that the parameters (versions and retention periods) specifications were invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

The log file might contain extended information about the failure.

If it is due to RACF, make sure that the current user identification is authorized.

---

**HKTM029E**    **LOCID=mmm RC=04 RSN=1D**  
                 **R0=rrrrrrrr : HISTORY NOT FOUND**

## Explanation

A GET HISTORY function could not find any history settings (versions or retention periods settings) for the relevant repository member set.

## System action

Program returns to the caller with the error and reason codes.

## User response

This might or might not be an error.

If HISTORY should be set, then an authorized user such as an administrator must set the history.

---

**HKTM030E**    **LOCID=mmm RC=0C RSN=1E**  
                 **R0=rrrrrrrr : PATTERN**  
                 **SPECIFICATION ERROR**

## Explanation

A get member list (GETMLST) or a get member list extended (GETMEXT) specified an invalid PATTERN specification.

Valid PATTERN specifications are **Y** (Yes), **N** (No), and **S** (Super).

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the optional PATTERN specification to ensure that one of the valid values is being used.

---

**HKTX001E**    **LOCID=mmm RC=10 RSN=01**  
                 **R0=rrrrrrrr : NULL PARAMETER**  
                 **LIST**

## Explanation

A NULL parameter list was passed to the HKTEXST processor (for example, GPR R1=0).

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that access is through the HKTEXST macro and is correctly specified.

---

**HKTX002E**    **LOCID=mmm RC=10 RSN=02**  
                 **R0=rrrrrrrr : ALREADY**  
                 **INITIALIZED**

## Explanation

The caller is attempting to initialize an already initialized HKTEXST environment or a non-zero token was used in an attempt to initialize the API.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the environment is initialized once and only once.

Check to see that before the initialization call, the token is set to zero.

Be sure if an environment is terminated that the token is set to zero.

If you want to have more than one environment active at the same time, each of these environments must use a unique token.

<b>HKTX003E</b>	<b>LOCID=mmm RC=10 RSN=03</b> <b>R0=rrrrrrrr : NULL LOG TOKEN FOR FUNCTION</b>
-----------------	---

## Explanation

The caller is attempting to process an HKTEXST function, other than an INITIAL or a TERM function, with an uninitialized environment.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the environment was initialized and not terminated prior to the function call.

<b>HKTX004E</b>	<b>LOCID=mmm RC=10 RSN=04</b> <b>R0=rrrrrrrr : INVALID FUNCTION SPECIFIED</b>
-----------------	--

## Explanation

The invocation of the call to HKTEXST contained an invalid function name.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the function name is valid or has not been corrupted.

<b>HKTX005E</b>	<b>LOCID=mmm RC=10 RSN=05</b> <b>R0=rrrrrrrr : BAD PROCESSING STATE</b>
-----------------	--

## Explanation

The state of a valid function was improperly invoked.

This probably was caused by calling a non-initial nor non-term type function without successfully initializing the HKTEXST environment.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that for all functions of a given HKTEXST environment, excluding initial or term, are issued after a successful initialization and before a termination function.

<b>HKTX006E</b>	<b>LOCID=mmm RC=0C RSN=06</b> <b>R0=rrrrrrrr : INVALID LOCK SPECIFICATION</b>
-----------------	--

## Explanation

The LOCK function overriding INTENT specification had an invalid value.

## System action

Program returns to the caller with the error and reason codes.

## User response

Valid values for the INTENT value with the LOCK function are Yes or No.

<b>HKTX007E</b>	<b>LOCID=mmm RC=10 RSN=07</b> <b>R0=rrrrrrrr : UNABLE TO CREATE LINKAGE</b>
-----------------	--

## Explanation

The attempt to allow for serialization failed.

This can occur when an attempt to create a local MVS PC number fails.

## System action

Program returns to the caller with the error and reason codes.

## User response

Retry the process again with a log file.

If the error reoccurs, report the problem to the system programmer.

<b>HKTX008E</b>	<b>LOCID=mmm RC=0C RSN=08</b> <b>R0=rrrrrrrr : TOOL NAME IS</b> <b>MISSING</b>
-----------------	--

## Explanation

The HKTEXST initialization function is missing the TOOL name, which is needed to retrieve the instrumentation data.

## System action

Program returns to the caller with the error and reason codes.

## User response

Correct the initialization function to include a TOOL name.

<b>HKTX009E</b>	<b>LOCID=mmm RC=0C RSN=09</b> <b>R0=rrrrrrrr : DATAPART IS</b> <b>MISSING</b>
-----------------	---

## Explanation

The HKTEXST initialization function is missing the DATAPART name, which is needed to retrieve the instrumentation data.

## System action

Program returns to the caller with the error and reason codes.

## User response

Correct the initialization function to include a DATAPART name.

<b>HKTX010E</b>	<b>LOCID=mmm RC=0C RSN=0A</b> <b>R0=rrrrrrrr : INVALID VARIABLE</b> <b>NAME</b>
-----------------	---

## Explanation

An invalid variable name was entered for an HKTEXST ADD VARIABLE (ADVAR) function.

Either the variable name was missing or had invalid syntax.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the descriptor with the variable name passed on an ADDVAR to see that it conforms to the correct syntax.

Ensure there are no embedded blanks, only trailing blanks.

The name must conform to a valid data set name, except nodes can be greater than 8-characters.

<b>HKTX011E</b>	<b>LOCID=mmm RC=0C RSN=0B</b> <b>R0=rrrrrrrr : GROUP NAME</b> <b>MISSING</b>
-----------------	--

## Explanation

The repository GROUP name, which is used to connect to the repository that contains the instrumentation data, is missing from the HKTEXST initialization function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that a valid GROUP name is included on the HKTEXST initialization function.

<b>HKTX012E</b>	<b>LOCID=mmm RC=0C RSN=0C</b> <b>R0=rrrrrrrr : REPOSITORY INIT</b> <b>FAILED</b>
-----------------	--

## Explanation

Access or connection to the sensor data repository: BSN\_SENSOR failed.

An attempt to initialize an environment to access the instrumentation data failed. Any one of the following conditions could have caused the error:

- An incorrect IMS Tools KB server XCF group name was specified.
- The specified IMS Tools KB server is inactive.
- The Sensor Data repository data set is full.
- There is an error for the specified IMS Tools KB server.
- The region size for the job is too small.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the sensor data repository has been started.

Check to see that the correct GROUP name has been supplied.

If RACF is in effect, make sure that the user has authority. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKTX013E**    **LOCID=mmm RC=0C RSN=0D**  
**R0=rrrrrrrr : CREATE MEMBER**  
**FAILED**

## Explanation

Access to the sensor data member in the repository failed.

An attempt to create a new repository member with the FUNC=ACCUM statistics failed. Any one of the following conditions might have caused the error:

- An incorrect IMS Tools KB server XCF group name was specified.
- The specified IMS Tools KB server is inactive.
- The Sensor Data repository data set is full.
- There is an error for the specified IMS Tools KB server.
- The region size for the job is too small.

## System action

Program returns to the caller with the error and reason codes.

## User response

If RACF is in effect, ensure that the user has authority. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKTX014E**    **LOCID=mmm RC=0C RSN=0E**  
**R0=rrrrrrrr : ADD RECORD FAILED**

## Explanation

An attempt to add a record to the sensor data member in the repository failed.

An attempt to add a record with FUNC=ACCUM statistics failed. Any one of the following conditions might have caused the error:

- An incorrect IMS Tools KB server XCF group name was specified.

- The specified IMS Tools KB server is inactive.
- The Sensor Data repository data set is full.
- There is an error for the specified IMS Tools KB server.
- The region size for the job is too small.

## System action

Program returns to the caller with the error and reason codes.

## User response

If RACF is in effect, ensure that the user has authority. Retry the program with a log file.

If the problem persists, contact the system programmer

---

**HKTX015E**    **LOCID=mmm RC=0C RSN=0F**  
**R0=rrrrrrrr : WRITE MEMBER**  
**FAILED**

## Explanation

An attempt to add a record to the sensor data member in the repository failed.

An attempt to write a new repository member or version of the repository failed. Any one of the following conditions might have caused the error:

- An incorrect IMS Tools KB server XCF group name was specified.
- The specified IMS Tools KB server is inactive.
- The Sensor Data repository data set is full.
- There is an error for the specified IMS Tools KB server.
- The region size for the job is too small.

## System action

Program returns to the caller with the error and reason codes.

## User response

If RACF is in effect, ensure that the user has authority to write a member to the repository. Retry the program with a log file.

If the problem persists, contact the system programmer.

---

**HKTX016E**    **LOCID=mmm RC=0C RSN=10**  
**R0=rrrrrrrr : INVALID INTENT**  
**DETECT**

## Explanation

The INTENT value on an HKTEXTST initialization function was invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

If an INTENT value is specified on initialization, valid values are NONE (N), DEFAULT (D), or ALL (A).

<b>HKTX017E</b>	<b>LOCID=mmm RC=0C RSN=11</b> <b>R0=rrrrrrrr : INVALID RESERVE FIELDS</b>
-----------------	--

## Explanation

The descriptor block passed on a HKTEXTST ADDVAR function had non-zero values in either one of the reserved bit or byte fields.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that values for the reserved fields in the variable descriptor are all zeroes.

<b>HKTX018E</b>	<b>LOCID=mmm RC=0C RSN=12</b> <b>R0=rrrrrrrr : INVALID VARIABLE LENGTH</b>
-----------------	---

## Explanation

The current function passed a null address, a null value, a negative value, or a length beyond the allowable range.

This includes variable lengths for an HKTEXTST ADDVAR function.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the current HKTEXTST function has correctly specified all address and length fields.

<b>HKTX019E</b>	<b>LOCID=mmm RC=0C RSN=13</b> <b>R0=rrrrrrrr : INVALID VARIABLE FORMAT</b>
-----------------	---

## Explanation

The format value specified for the HKTEXTST ADDVAR function is invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the format specified conforms to an allowable type for the variable descriptor.

Valid formats for the variable value are Binary, Character, Packed, (E) Stck, or Unsigned Packed.

<b>HKTX020E</b>	<b>LOCID=mmm RC=0C RSN=14</b> <b>R0=rrrrrrrr : INVALID SIGNED INDICATOR</b>
-----------------	--

## Explanation

The signed indicator specified for the HKTEXTST ADDVAR function is invalid.

## System action

Program returns to the caller with the error and reason codes.

## User response

Valid values for the signed indicator for a variable descriptor is either Yes (Y) or No (N).

<b>HKTX021E</b>	<b>LOCID=mmm RC=0C RSN=15</b> <b>R0=rrrrrrrr : INVALID VARIABLE VALUE</b>
-----------------	--

## Explanation

The variable value specified for the HKTEXTST ADDVAR function does not conform to the variable format specified.

For example, a stated packed number contains one or more non-packed digits.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the variable format and variable value for the HKTEXST ADDVAR function.

One or both are not correctly specified.

---

**HKTX022E      LOCID=mmm RC=0C RSN=16**  
**R0=rrrrrrrr : INVALID WRITE**  
**SPECIFICATION**

## Explanation

The override INTENT specified for the HKTEXST ACCUM function, that writes data to the repository, must be No (N) or Yes (Y).

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the value of the INTENT option specified for the HKTEXST ACCUM function. Valid values are No (N) or Yes (Y).

---

**HKTX023E      LOCID=mmm RC=0C RSN=17**  
**R0=rrrrrrrr : SERIALIZATION**  
**SPECIFICATION**

## Explanation

The optional SERIALIZATION specification on the HKTEXST INITIAL function had an invalid value. It must be either A, N, Y or blank.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the value of the SERIALIZATION option specified for the HKTEXST ACCUM function.

Valid values are Auto (A), No (N), Yes (Y), or blank.

---

**HKTX024E      INVALID IMS DDNAME SETTING**

## Explanation

This error message is deprecated and no longer used.

## System action

None.

## User response

None.

---

**HKTX025E      LOCID=mmm RC=0C RSN=19**  
**R0=rrrrrrrr : USER PARAMETER**  
**EXCEPTION**

## Explanation

The HKTEXST INITIAL function is missing the mandatory user parameter list: UPARMSTR and UPARMLEN.

These fields must be specified on the INITIAL function even if the user parameter list has a length of zero.

## System action

Program returns to the caller with the error and reason codes.

## User response

Add a user parameter list specification to the HKTEXST INITIAL function.

Use a zero-length parameter list for cases where a parameter list is unnecessary.

---

**HKTX026E      LOCID=mmm RC=0C RSN=1A**  
**R0=rrrrrrrr : INVALID TREE TYPE**  
**SPECIFIED**

## Explanation

The HKTEXST INITIAL, TASKLIST, and TASKLEXT functions specifying TREE TYPE has an invalid value.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the TREE TYPE specification on the HKTEXST macro.

Valid values for TREE TYPE are GLOBAL (G), JOBSTEP (J), LOCAL (L), or SINGLE (S).

---

**HKTX027E      LOCID=mmm RC=0C RSN=1B**  
**R0=rrrrrrrr : TASKLIST REQUEST**  
**EXCEPTION**

## Explanation

The HKTEXST TASKLIST function did not specify an AREA or LENGTH, or the LENGTH was not big enough to hold the returned task list header.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the AREA and LENGTH settings for the TASKLIST function call.

<b>HKTX028I</b>	<b>LOCID=mmm RC=04 RSN=1C</b> <b>R0=rrrrrrrr : TASK LIST NOT BIG ENOUGH</b>
-----------------	--

## Explanation

The HKTEXST TASKLIST function LENGTH was not big enough to hold the number of task entries to return.

The list is truncated.

## System action

Program returns to the caller with the information error and reason codes.

## User response

If all entries are required to be returned, ensure that the task list can hold at least as many as are returned in the TSKMAXNO member of the task list header.

The actual number of task entries returned is in the TSKCURNO member.

Between TASKLIST calls, it is possible for the number of tasks to change. Therefore, it is possible to require several iterations of calls to obtain the total number of entries.

<b>HKTX029E</b>	<b>LOCID=mmm RC=08 RSN=1D</b> <b>R0=rrrrrrrr : AUTHORIZATION REQUIRED</b>
-----------------	--

## Explanation

The HKTEXST INITIAL function specified SERIALIZE=YES. However, the module issuing the INITIAL was not authorized.

## System action

Program returns to the caller with the error and reason codes.

## User response

If the HKTEXST environment does not need serialization, change the SERIALIZE value to NO - or explicitly, or by default, set it to AUTO.

If SERIALIZE must be YES, then ensure that at least at HKTEXST INITIAL time, the module is running APF authorized - which includes the Binder/Link Edit: SETCODE AC(1).

<b>HKTX030E</b>	<b>LOCID=mmm RC=0C RSN=1E</b> <b>R0=rrrrrrrr : INVALID SYNCH SPECIFICATION</b>
-----------------	---

## Explanation

The HKTEXST SYNCH function encountered an error attempting to process a SYNCH option.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check to see that the HKTEXST SYNCH function INTENT has a valid specification. This includes both the value and the HKTEXST current SYNCH state.

A SYNCH setting state of S, R, or U must not already have a SYNCH set state.

A SYNCH setting state of C or B must already have a SYNCH set state.

<b>HKTX031E</b>	<b>LOCID=mmm RC=0C RSN=1F</b> <b>R0=rrrrrrrr : DYNAMIC STORAGE EXCEPTION</b>
-----------------	---

## Explanation

An attempt to issue an HKTEXST RELEASE function to delete storage internally allocated for the user to browse failed.

The storage pointer contained an address of the storage not recognized by the current HKTEXST environment.

This does not include a NULL valued pointer.

## System action

Program returns to the caller with the error and reason codes.

## User response

Check the address of the storage that is passed to be released.

Make sure the pointer or the storage has not been corrupted or invalidly referenced.

You can also let the storage be released automatically when the HKTEXST TERM function for this HKTEXST environment is issued.

---

**HKTX032E**    **LOCID=mmm RC=04 RSN=20**  
**R0=rrrrrrrr : RELEASE OF NULL**  
**POINTER**

### Explanation

A NULL pointer was passed during an attempt to issue an HKTEXST RELEASE function to delete storage internally allocated for the user.

#### System action

Program returns to the caller with the error and reason codes.

#### User response

The most likely cause of this warning/error situation is an attempt to delete storage that has already been deleted.

If this is not the situation, then refer to the HKTX031E message.

---

**HKTX033E**    **LOCID=mmm RC=0C RSN=21**  
**R0=rrrrrrrr : HISTORY**  
**SPECIFICATION ERROR**

### Explanation

The HISTORY setting for either the HKTEXST SETHIST or GETHIST using the HISTORY option was invalid.

#### System action

Program returns to the caller with the error and reason codes.

#### User response

Check the HISTORY option to be sure that it is set to either Yes (Y) or No (N).

---

**HKTX034I**    **LOCID=mmm RC=04 RSN=22**  
**R0=rrrrrrrr : HISTORY NOT FOUND**

### Explanation

The HKTEXST GETHIST (get history) could not find any history for the specified extended sensor data members.

Setting of history (for example, retention days and maximum versions) is optional.

### System action

Program returns to the caller with the error and reason codes.

#### User response

This is an informational message and no action is required. History settings are optional.

---

**HKTX035E**    **LOCID=mmm RC=0C RSN=23**  
**R0=rrrrrrrr : INVALID MERGE**  
**COUNT SETTING**

### Explanation

The optional MERGECNT on the HKTEXST INITIAL function had an invalid explicit value.

#### System action

Program returns to the caller with the error and reason codes.

#### User response

Check the explicit merge count setting (MERGECNT) and ensure that it has a valid value of Yes (Y) or No (N).

---

**HKTX036E**    **LOCID=mmm RC=0C RSN=24**  
**R0=rrrrrrrr : USER INDEX ACCESS**  
**FAILED**

### Explanation

The optional MERGECNT on the HKTEXST INITIAL function had an invalid explicit value.

#### System action

Program returns to the caller with the error and reason codes.

#### User response

Check the MERGECNT option and ensure that it has a valid value of Yes (Y) or No (N).

---

**HKTX037E**    **LOCID=mmm RC=0C RSN=25**  
**R0=rrrrrrrr : INVALID OVERRIDE**  
**EXM BLOCK**

### Explanation

The HKTXTUX EXM block passed on an HKTEXST INITIAL function had an invalid format.

## System action

Program returns to the caller with the error and reason codes.

## User response

Verify that the EXM control block was correctly constructed using the HKTEXTM0 program.

This is includes, but is not limited to, the EXM header information, such as EXM block size, eyecatcher, and version number.

---

<b>HKTX038E</b>	<b>LOCID=mmm RC=0C RSN=26</b>
	<b>R0=rrrrrrrr : DELETE MEMBER</b>
	<b>ERROR</b>

---

## Explanation

The HKTEXST DELETE function failed to delete the requested member.

## System action

Program returns to the caller with the error and reason codes.

## User response

Ensure that the correct member to delete was specified.

Also, ensure that the member had not previously been deleted.

---

<b>HKTX039E</b>	<b>LOCID=mmm RC=0C RSN=27</b>
	<b>R0=rrrrrrrr : INVALID EXCLUDE</b>
	<b>SYS SETTING</b>

---

## Explanation

The EXECSYS on the HKTEXST INITIAL function, if specified, had an invalid value.

## System action

Program returns to the caller with the error and reason codes.

## User response

The only valid values allowed for the EXECSYS option are either Yes (Y) or No (N).

---

<b>HKTX040E</b>	<b>LOCID=mmm RC=0C RSN=28</b>
	<b>R0=rrrrrrrr : INVALID ELECTIVE</b>
	<b>KEY USAGE</b>

---

## Explanation

The elective key portion indicator had an invalid value.

## System action

Program returns to the caller with the error and reason codes.

## User response

This is an internal error probably due to running an invalid version of the HKTEXST process.



---

# Chapter 23. BPE diagnostic trace

As requests flow through the Service Repository server, flow trace records are produced.

Some events also result in the creation of trace data. This is a wraparound BPE trace that can be formatted and printed by using the following **MODIFY** command:

►— F — *server\_jobname*, — DUMPTRACE —►

**Important:** This information is not generally intended for clients or administrators. It is generated to give visibility to the server processes in order to aid problem diagnosis and Service Repository development.

The formatted trace is placed in FPQPRINT and contains the following information:

**Date and time**

In YY/MM/DD HH:MM:SS.thmiju format.

**Type**

A single event (EV) or a process (PR).

**Function**

The function that was initiated.

**User ID**

The user running the operation.

**XCF or other information**

XCF token or additional supporting information. For example, the DSN of data set being allocated.

**Return code, reason code, and feedback**

The return code, reason codes, and feedback word for the operation.

In the event of a server failure, formatted DIAG trace entries, as generated by the FPQ server DUMPTRACE command, may not be available. However, the raw BPE DIAG trace entries are available in an FPQ server dump. To assist you with dump analysis of these trace entries, the BPE Trace Format Service support is provided.



---

## Chapter 24. IBM Service Repository abend codes

The IBM Service Repository does not have any user abend codes. The Service Repository server runs in a BPE environment, which has a number of user abend codes associated with it.

For details of BPE abend codes, refer to *IMS Messages and Codes, Volume 4: IMS Component Codes*.



# Chapter 25. Gathering diagnostic documentation

The following information provides guidelines for gathering proper diagnostic documentation when reporting a problem with IMS Tools Knowledge Base to IBM Software Support.

Provide the following information for every IMS Tools Knowledge Base problem:

- Problem description.
- Product release number and the number of the last PTF (program temporary fix) that was installed.
- Load Module APAR Status report. Use the Tools Base Diagnostics Aid (HKTUDIAG) to generate a Load Module APAR Status report. For details, see *IMS Tools Base IMS Tools Common Services User's Guide and Reference*.

Additional documentation is also required for various incident types. In general, gather the suggested documentation for the following incident types:

- For online reports
  - Screen print of **Internal Error** panel
  - Job log from TSO session that encountered the abend
  - Job log from server
  - Description of the task that you were performing before the internal error occurred
- For online abend
  - Screen shot of panel that encountered the abend
  - Job log from TSO session that encountered the abend
  - Job log from server
  - Transaction dump that was generated by the abend (data set is named *user.ITKB.\** where *user* is your TSO prefix if it is set, or your TSO user ID)
  - Description of the task that you were performing before the abend occurred
- For online error message
  - Text of message
  - Description of the task that you were performing before you received the message
- For error in batch processing (Admin, Import, Export)
  - Job log
  - Print output
  - Contents of data sets that were used for the execution
- For abend during batch processing (Admin, Import, Export)
  - Job log
  - Print output
  - Contents of data sets that were used for the execution
  - Dump (if possible, an SVC dump)



---

## Part 7. Reference

The topics in this section provide you with supplemental technical references.

**Topics:**

- [Chapter 26, “Column display functions,” on page 307](#)
- [Chapter 27, “How to read syntax diagrams,” on page 321](#)



# Chapter 26. Column display functions

Column display functions (also referred to as CSETUP or CSET functions) enable you to rearrange report columns, change the width of individual columns, and control the vertical ordering of columns. The CSETUP functions are supported for IMS DBDS reports.

CSETUP functions enable you to:

- Rearrange report columns horizontally using the CFIX and CORDER options.
- Change the width of individual columns using the CSIZE option.
- Control the vertical ordering of columns using the CSORT option.

Additional column display functions enable you to:

- Scroll horizontally between columns, in both left and right directions.
- Scroll horizontally within a single report column while other report columns remain stationary on the screen.
- Insert column numbers above each display column.
- Generate a ruler at the top of the report columns beneath the headings.
- Display an entire row-column data element.

The customizations, or *views*, you configure using CFIX, CORDER, CSIZE, and CSORT can be saved across sessions.

The following syntax conventions apply to the use of CSETUP functionality:

- Underlines indicate the minimum acceptable abbreviation for each keyword.
- Variables are shown in italicized lowercase type.
- Keyword options are separated by vertical lines (|).

## Topics:

- [“Accessing the CSETUP Primary Option Menu \(CSETUP\)” on page 307](#)
- [“Fixing columns \(CFIX\)” on page 308](#)
- [“Repositioning columns \(CORDER\)” on page 310](#)
- [“Resizing columns \(CSIZE\)” on page 312](#)
- [“Sorting data \(CSORT\)” on page 314](#)
- [“Resetting CSETUP customizations \(CRESET/CREMOVE\)” on page 317](#)
- [“Scrolling columns \(CRIGHT/CLEFT/ICRIGHT/ICLEFT\)” on page 317](#)
- [“Displaying column numbers \(CNUM\)” on page 318](#)
- [“Displaying a ruler \(COLS\)” on page 318](#)
- [“Expanding columns \(CEXPAND\)” on page 318](#)
- [“CSETUP restrictions” on page 319](#)

## Accessing the CSETUP Primary Option Menu (CSETUP)

The CSETUP Primary Option Menu (CSETUP menu) enables you to access the various CSETUP options and configure column display functions.

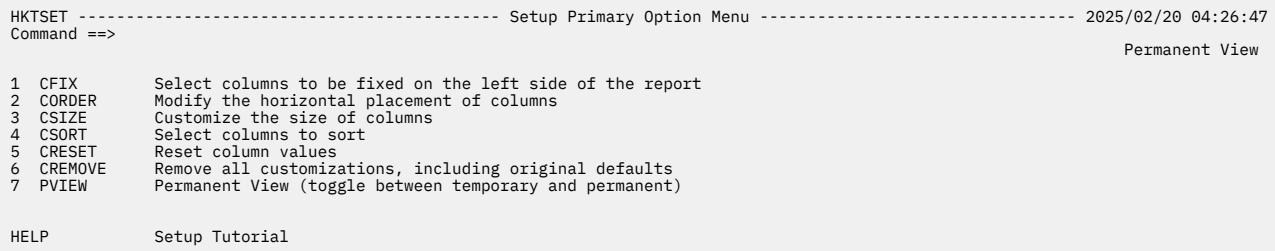
### About this task

The **CSETUP** command launches the **CSETUP Primary Option Menu** panel.

## Procedure

1. On any panel that shows a table display, specify **CSETUP** on the option line and press Enter.

The **CSETUP Primary Option Menu** panel is displayed as shown in the following figure:



```
HKTSET ----- Setup Primary Option Menu ----- 2025/02/20 04:26:47
Command ==> Permanent View

1 CFIX      Select columns to be fixed on the left side of the report
2 CORDER    Modify the horizontal placement of columns
3 CSIZE     Customize the size of columns
4 CSORT     Select columns to sort
5 CRESET    Reset column values
6 CREMOVE   Remove all customizations, including original defaults
7 PVIEW     Permanent View (toggle between temporary and permanent)

HELP      Setup Tutorial
```

Figure 104. CSETUP Primary Option Menu panel (HKTSET)

2. Type the number corresponding to the option you want to access in the command line and press Enter.

The following options are available on the **CSETUP Primary Option Menu** panel.

### **CFIX**

Option 1, **CFIX**, enables you to fix and unfix columns. For more information, see [“Fixing columns \(CFIX\)” on page 308](#).

### **CORDER**

Option 2, **CORDER**, enables you to reposition columns. For more information, see [“Repositioning columns \(CORDER\)” on page 310](#).

### **CSIZE**

Option 3, **CSIZE**, enables you to change the displayed width of columns. For more information, see [“Resizing columns \(CSIZE\)” on page 312](#).

### **CSORT**

Option 4, **CSORT**, enables you to select one or more columns for sorting and thus modify the order of the rows displayed. For more information, see [“Sorting data \(CSORT\)” on page 314](#).

### **CRESET**

Option 5, **CRESET**, enables you to reset all customizations. For more information, see [“Resetting CSETUP customizations \(CRESET/CREMOVE\)” on page 317](#).

### **CREMOVE**

Option 6, **CREMOVE**, enables you to remove all customizations. For more information, see [“Resetting CSETUP customizations \(CRESET/CREMOVE\)” on page 317](#).

### **PVIEW**

Option 7, **PVIEW**, enables you to toggle between permanent view and temporary view.

**Tip:** You can also directly invoke each CSETUP option by typing the corresponding command (for example, **CFIX**, **CORDER**, **CSIZE**, **CSORT**, **CRESET**, **CREMOVE**, or **PVIEW**) on the option line on any dynamic display.

## Fixing columns (CFIX)

Use the CFIX option to fix and unfix columns.

### About this task

A fixed column is always located at the far left side of the display. It does not shift horizontally (as unfixed columns do) when scrolling to the left or right. Inner column scrolling (**ICRIGHT** and **ICLEFT** commands) and the **CEXPAND** command can be used on a fixed column if the column is narrower than its maximum width. Certain columns might be permanently fixed in the report and cannot be unfixed. These columns have a fix status of P (permanently fixed).

A column cannot be fixed if it is larger than the available display area. There are also restrictions for fixing columns related to the size requirements of other columns. For more information, see “[CSETUP restrictions](#)” on page 319.

## Procedure

1. Specify **CFIX** on the option line on any panel, and press Enter.

The **Define Fixed Columns** panel is displayed as shown in the following figure:

```
HKTFIX ----- Define Fixed Columns ----- 2025/02/20 04:32:57
Option ==> Scroll ==> PAGE
----- ROW 1 OF 23

Column Function ==> 1 (1-Fix/Unfix, 2-Order, 3-Size, 4-Sort)
Permanent View ==> Y (Y-Perm, N-Temp) Reset View ==> N (Y,N)

Device_Width : 132
Old_Fixed_Width: 39      Old_Unfixed_Width: 93
New_Fixed_Width:          New_Unfixed_Width:

-----
```

Cmd	New	Old	Len	Column_Name
P	P	P	2	Act
P	P	P	11	Timestamp
P	P	P	9	DB_Name
P	P	P	8	PART_Name
P	P	P	9	DD_Name
-			5	DSID
-			21	Database_Type
-			7	Access_Method
-			5	DS_Org
-			7	Block_Size
-			5	Max_Size
-			5	Max_Pct
-			13	RBA_High_Alloc
-			13	RBA_High_Used
-			13	Unused_Bytes
-			12	Free_Space_Bytes
-			5	Free_Pct
-			7	EXT
-			7	Max_EXT_DS
-			12	Bytes_Seg
-			5	FSE_Pct
-			9	RECONID
-			45	Data_Set_Name
***** Bottom of Data *****				

```
Enter: Process selections; PF3: Exit and save; CAN: Exit without save
Line Cmds: F Fix U Unfix
*CMD
```

Figure 105. Define Fixed Columns panel (HKTFIX)

On the **Define Fixed Columns** panel, the following fields are displayed:

### Column Function

Specify the appropriate number to jump to any of the CSETUP functions. The number corresponding to the current option is shown in this field.

### Permanent View

Indicates whether the view you define is permanent or temporary. Valid values are:

**Y**

View customizations are permanent.

**N**

View customizations are temporary.

### Reset View

Resets all customizations.

### Device\_Width

Displays the current display device size (screen width).

### Old\_Fixed\_Width

Displays the sum of the FIXED column widths before any changes in the current CFIX panel.

### Old\_Unfixed\_Width

Displays the UNFIXED area before any changes in the current CFIX panel. Old\_Unfixed\_Width = Device\_Width - Old\_Fixed\_Width.

**New\_Fixed\_Width**

Displays the sum of the FIXED column widths that will result if the FIX/UNFIX changes are saved.

**New\_Unfixed\_Width**

Displays the UNFIXED area that will result if the FIX/UNFIX changes are saved.

New\_Unfixed\_Width = Device\_Width - New\_Fixed\_Width.

**Cmd**

Field where you specify line commands. Valid line commands are:

**F**

Fix.

**U**

Unfix.

**New**

Displays the new CFIX view settings.

**Old**

Displays the previous CFIX view settings.

**Len**

Displays the length of the column.

**Column\_Name**

Displays the name of the column.

2. Specify F in the Cmd field next to the column or columns that you want to fix.
3. Specify U in the Cmd field next to the column or columns that you want to unfix.
4. Press Enter.

The changed values are displayed in the New column next to the corresponding column or columns.

5. Press PF3 to save changes and return to the display panel.

## Repositioning columns (CORDER)

Use the CORDER option to reposition report columns.

### About this task

If any columns are fixed, they are grouped together as the leftmost report columns. The unfixed columns are grouped together to the right of any fixed columns. CORDER does not move a column out of its group. A fixed column cannot be relocated to the right of an unfixed column. Likewise, an unfixed column cannot be relocated to the left of a fixed column.

### Procedure

1. Specify CORDER on the option line on any display panel and press Enter.

The **Define Column Display Order** panel is displayed as shown in the following figure:

```

HKTORD ----- Define Column Display Order ----- 2025/02/20 04:34:40
Option ==> Scroll ==> PAGE
----- ROW 1 OF 23

Column Function ==> 2 (1-Fix/Unfix, 2-Order, 3-Size, 4-Sort)
Permanent View ==> Y (Y-Perm, N-Temp) Reset View ==> N (Y,N)

Cmd Fix New Old Column_Name
--- P 1 Act
--- P 2 Timestamp
--- P 3 DB_Name
--- P 4 PART_Name
--- P 5 DD_Name
--- 6 DSID
--- 7 Database_Type
--- 8 Access_Method
--- 9 DS_Org
--- 10 Block_Size
--- 11 Max_Size
--- 12 Max_Pct
--- 13 RBA_High_Alloc
--- 14 RBA_High_Used
--- 15 Unused_Bytes
--- 16 Free_Space_Bytes
--- 17 Free_Pct
--- 18 EXT
--- 19 Max_EXT_DS
--- 20 Bytes_Seg
--- 21 FSE_Pct
--- 22 RECONID
--- 23 Data_Set_Name
***** Bottom of Data *****

Enter: Process selections; PF3: Exit and save; CAN: Exit without save
Line Cmds: Specify number for column position
*CMD

```

Figure 106. Define Column Display Order panel (HKTORD)

On the **Define Column Display Order** panel, the following fields are displayed:

**Column Function**

Specify the appropriate number to jump to any of the CSETUP functions. The number corresponding to the current option is shown in this field.

**Permanent View**

Indicates whether the CSETUP customization you define is permanent or temporary. CSETUP customization refers to the change made in the CSETUP functions CFIX, CORDER, CSIZE, and CSORT. These customizations are called *views*. Valid values are:

**Y**

CSETUP customization is permanent.

**N**

CSETUP customization is temporary.

**Reset View**

Resets all customizations.

**Cmd**

In the Cmd field, you can specify the number for column position.

**Fix**

Displays fixed columns. Valid values are:

**F**

Indicates that the column is fixed.

**P**

Indicates that the column is permanently fixed.

**New**

Displays the new CORDER view settings.

**Old**

Displays the previous CORDER view settings.

**Column\_Name**

Displays the name of the column.

2. Specify a number next to a column to specify its order.

3. Press Enter.

The new column order numbers is displayed in the New column next to each column.

4. Press PF3 to return to the display panel.

## Resizing columns (CSIZE)

Use the CSIZE option to change the displayed width of columns.

### About this task

This function is primarily intended for non-numeric data where there are large blank areas in all (or most) rows in a given column. Although the displayed width might change, the underlying data does not change.

If the size of a column is less than the column maximum, some data might not be displayed. You can use inner column scrolling (ICRIGHT and ICLEFT commands) and the CEXPAND command to view data outside the display range of the resized column.

If the minimum and maximum column widths are equal, the column cannot be resized.

### Procedure

1. Specify CSIZE on the option line on any display panel and press Enter.

The **Define Column Size** panel is displayed as shown in the following figure:

```
HKTSIZ ----- Define Column Size ----- 2025/02/20 04:36:44
Option ==> -----
                                                               Scroll ==> PAGE
                                                               ROW 1 OF 23

Column Function ==> 3 (1-Fix/Unfix, 2-Order, 3-Size, 4-Sort)
Permanent View ==> Y (Y-Perm, N-Temp) Reset View ==> N (Y,N)

Device_Width : 132
Old_Fixed_Width: 39      Old_Unfixed_Width: 93
New_Fixed_Width:          New_Unfixed_Width: -----
-----
Cmd New Old Min Max Fix Column_Name
  2   2   2   2 P  Act
  11  2   20  P  Timestamp
  9   2   9   P  DB_Name
  8   2   8   P  PART_Name
  9   2   9   P  DD_Name
  5   2   5   P  DSID
  21  2   21  P  Database_Type
  7   2   7   P  Access_Method
  5   2   5   P  DS_Org
  7   2   7   P  Block_Size
  5   2   5   P  Max_Size
  5   2   5   P  Max_Pct
  13  2   13  P  RBA_High_Alloc
  13  2   13  P  RBA_High_Used
  13  2   13  P  Unused_Bytes
  12  2   12  P  Free_Space_Bytes
  5   2   5   P  Free_Pct
  7   2   7   P  EXT
  7   2   7   P  Max_EXT_DS
  12  2   12  P  Bytes_Seg
  5   2   5   P  FSE_Pct
  9   2   9   P  RECONID
  45  2   45  P  Data_Set_Name
***** Bottom of Data *****
Enter: Process selections; PF3: Exit and save; CAN: Exit without save
Line Cmds: Column size, between MIN and MAX
```

Figure 107. Define Column Size panel (HKTSIZ)

On the **Define Column Size** panel, the following fields are displayed:

#### Column Function

Specify the appropriate number to jump to any of the CSETUP functions. The number corresponding to the current option is shown in this field.

#### Permanent View

Specify whether the view you define is permanent or temporary. Valid values are:

**Y**

View customizations are permanent.

**N**

View customizations are temporary.

**Reset View**

Resets all customizations.

**Device\_Width**

Displays the current display device size (screen width).

**Old\_Fixed\_Width**

Displays the sum of the FIXED column widths.

**Old\_Unfixed\_Width**

Displays the UNFIXED area.

**New\_Fixed\_Width**

Displays the sum of the FIXED column widths.

**New\_Unfixed\_Width**

Displays the UNFIXED area.

**Cmd**

Specify the number for column position.

**New**

Displays the new CSIZE view settings.

**Old**

Displays the previous CSIZE view settings.

**Min**

Displays the minimum column length.

**Note:** If the minimum and maximum column widths are equal, the column cannot be resized.

**Max**

Displays the maximum column length.

**Note:** If the minimum and maximum column widths are equal, the column cannot be resized.

**Fix**

Displays fixed columns. Valid values are:

**F**

Indicates that the column is fixed.

**P**

Indicates that the column is permanently fixed.

**Column\_Name**

Displays the name of the column.

2. Specify the column size in the Cmd field next to the column you want to resize.

The column size you specify must be between the Min and Max values that are displayed for that column.

3. Press Enter.

The new view criteria is displayed in the New column.

4. Press PF3 to return to the display panel.

## Sorting data (CSORT)

Use CSORT functionality to select one or more columns for sorting so as to modify the order of the rows displayed in the IMS DBDS report.

Columns are selected by sort priority and direction. Direction is either ascending (default) or descending. When more than one column is selected for sorting, the second column only differentiates when rows have matching data in the first column. Similarly, a third column only impacts the sort when data in the first two columns is identical.

## Sorting data with the Define Sort Columns panel

You can sort display data by columns by using the **Define Sort Columns** panel.

## About this task

You can select up to nine columns for sorting. Internal requirements might require a smaller maximum. A message is issued if the maximum number of columns selected for sorting is exceeded.

## Procedure

1. Specify CSORT on the option line on any display panel and press Enter.

The **Define Sort Columns** panel is displayed as shown in the following figure:

HKT SRT ----- Define Sort Columns ----- 2025/02/20 04:39:39  
Option ===> Scroll ===> PAGE  
-----  
ROW 1 OF 23  
  
Column Function ===> 4 (1-Fix/Unfix, 2-Order, 3-Size, 4-Sort)  
Permanent View ===> Y (Y-Perm, N-Temp) Reset View ===> N (Y,N)  
Stop Sorting ===> N (Y,N)  
  
Cmd Dir New Old Column\_Name  
- - - - -  
Act  
Timestamp  
DB\_Name  
PART\_Name  
DD\_Name  
DSID  
Database\_Type  
Access\_Method  
DS\_Org  
Block\_Size  
Max\_Size  
Max\_Pct  
RBA\_High\_Alloc  
RBA\_High\_Used  
Unused\_Bytes  
Free\_Space\_Bytes  
Free\_Pct  
EXT  
Max\_EXT\_DS  
Bytes\_Seg  
FSE\_Pct  
RECONID  
Data\_Set\_Name  
\*\*\*\*\* Bottom of Data \*\*\*\*\*  
  
Enter: Process selections; PF3: Exit and save; CAN: Exit without save  
Cmd: 1-9 Dir: A Asc D Desc  
LCMD

Figure 108. Define Sort Columns panel (HKTSRT)

On the **Define Sort Columns** panel, the following fields are displayed:

## Column Function

Specify the appropriate number to jump to any of the CSETUP functions. The number corresponding to the current option is shown in this field.

## Permanent View

Specify whether the view you define is permanent or temporary. Valid values are:

Y

View customizations are permanent.

**N**

View customizations are temporary.

#### **Stop Sorting**

Indicates whether stop sorting is specified. Valid values are:

**Y**

Stop sorting.

**N**

Continue sorting.

#### **Cmd**

Specify the sort order.

#### **Dir**

Specifies the lexicographic order for the column. Valid values are:

**A**

(Default) Values are listed in ascending order, smallest to largest.

**D**

Values are listed in descending order, largest to smallest.

#### **New**

Displays the new CSORT view settings.

#### **Old**

Displays the previous CSORT view settings.

#### **Column\_Name**

Displays the name of the column.

2. Specify A or D in the Cmd field next to the columns on which you want to base your sort.

3. Press Enter.

The new sort preferences are displayed in the New column.

4. Press PF3 to return to the display panel.

## **Sorting data by using the fast path CSORT command**

Use the CSORT command, which can be used as a primary (fast path) command, to specify sort order (ascending or descending) for each column.

### **Procedure**

Specify the appropriate CSORT syntax on the option line of any panel and press Enter.

The functionality supports both single and multi-column sorting.

To sort a single column, specify as follows:

CSORT *column\_identifier dir*

To sort multiple columns, specify as follows. Up to nine columns can be sorted at a time.

CSORT *column\_identifier dir column\_identifier dir ...*

#### ***column\_identifier***

The column name or the relative column number.

The relative column number for a column is determined based on the column's placement when it is visible on the panel. Thus, relative column numbers are only available for columns currently visible on the panel. Relative column numbers are determined by counting the displayed columns from left to right, with the leftmost visible column being assigned the number 1 and each successive column (reading left to right) being assigned a relative column number that is incremented by 1.

**Tip:** To quickly determine the column number, use the CNUM command to toggle the column numbers above each display column.

To sort on a column that is not displayed, use the column name instead of the relative column number.

#### **dir**

Optional indication of the direction in which to sort the column data. If *dir* is used, a space required between the *column\_identifier* and *dir*.

Valid values are:

#### **ASC**

(Default) Sorts data in ascending order.

#### **DESC**

Sorts data in descending order.

### **Examples**

The following examples are of a report display that has three columns, all of which display on the panel:

- Column 1: Name
- Column 2: Creator
- Column 3: Status

You can sort these columns in the following ways:

**SORT NAME**

Sorts display data in ascending order based on the value in the Name column.

When no *dir* value is specified, the default sort order is ascending; **SORT NAME** and **SORT NAME A** are synonymous.

**SORT NAME D**

Sorts display data in descending order based on the value in the Name column.

**SORT NAME DESC**

Sorts display data in descending order based on the value in the Name column.

**SORT NAME A CREATOR D**

Sorts display data first in ascending order based on the value in the Name column, and then sorts data in descending order based on the value in the Creator column.

**SORT NAME ASC CREATOR DESC**

Sorts display data first in ascending order based on the value in the Name column, and then sorts data in descending order based on the value in the Creator column.

**SORT 1 A**

Sorts display data in ascending order based on the value in the Name column.

**SORT 1 A CREATOR D**

Sorts display data first in ascending order based on the value in the Name column, and then sorts data in descending order based on the value in the Creator column.

**SORT 3 2 1**

Sorts the display data first in ascending order based on the value in the Status column, then in ascending order based on the value in the Creator column, and finally in ascending order based on the value in the Name column.

## Resetting CSETUP customizations (CRESET/CREMOVE)

Use the CRESET option or the CREMOVE option, which both can be used as primary commands, to reset all display customizations.

### About this task

The CRESET command and the CREMOVE command both reset the following display customizations:

- All fixed columns are unfixed (except for any permanently fixed columns).
- All sort columns are cleared and sorting is disabled.
- Original column locations are restored.
- All column sizes are reset. With the CRESET command, to their initial values. With the CREMOVE command, to their maximum values.

### Procedure

Enter CRESET or CREMOVE on the option line of any panel and press Enter.

## Scrolling columns (CRIGHT/CLEFT/ICRIGHT/ICLEFT)

You can scroll columns horizontally, both left and right.

### Procedure

Use column scrolling to scroll columns in the panel, and inner column scrolling to scroll within a column.

#### Column scrolling

Use the following commands when viewing any dynamic display panel to scroll horizontally between columns:

##### **CRIGHT** *n*

Enables you to scroll the left side of the display panel *n* report columns to the right.

##### **CLEFT** *n*

Enables you to scroll the left side of the display panel *n* report columns to the left.

#### Inner column scrolling

You can scroll horizontally within a single report column while other report columns remain stationary. Inner column scrolling can be useful for columns that have been shortened using the CSIZE command.

Use the following commands when viewing any dynamic display panel to scroll horizontally within a single report column:

##### **ICRIGHT**

Enables you to scroll to the right within one report column while the other report columns remain stationary.

##### **ICLEFT**

Enables you to scroll to the left within one report column while the other report columns remain stationary.

## Displaying column numbers (CNUM)

Column numbering inserts a column number above each display column. The inserted column numbers are relative to the leftmost display column.

### Procedure

Issue the CNUM command to invoke column numbering. The CNUM command enables you to toggle on/off the column numbers above each display column.

The leftmost displayed column is always numbered 1 regardless of how far to the right you scroll.

**Tip:** You can use column numbers when issuing the primary CSORT command. For more information, see “Sorting data by using the fast path CSORT command” on page 315.

Column numbers are not removed with the CRESET or CREMOVE commands. To remove column numbers, reissue the CNUM command.

## Displaying a ruler (COLS)

Use the COLS command to generate a ruler at the top of the report columns beneath the headings. This ruler tracks the current position within the column.

### Procedure

Issue the COLS command alone, as a toggle switch, or with one parameter (ON|OFF).

### Example

The < and > symbols indicate whether there is additional column data to the left or right of the displayed data.

```
<-----2----->
```

In this example, positions 13 through 28 are displayed. There is data both to the left and right of the currently displayed area.

## Expanding columns (CEXPAND)

Use the CEXPAND command to display an entire row-column data element.

### About this task

The CEXPAND command can be useful when the CSIZE command has reduced a column to a width that is too narrow to display all data. Expanding columns using the CEXPAND command is an alternative to inner column scrolling.

### Procedure

Place the cursor on a row-column element and issue the CEXPAND command. The cursor position determines the row-column that expands.

The CEXPAND command can be issued alone or with two parameters (*row* and *column*).

#### **row**

The number of the row.

#### **column**

The number of the column (non-heading lines only).

## CSETUP restrictions

---

The following restrictions apply to the CSETUP options.

- Total fixed column sizes cannot exceed screen width.
- Total fixed column sizes must leave enough unfixed space for the minimum allowed size for all unfixed columns. If a column is not eligible for resizing, the column's minimum size requirement is the same as its maximum size. Minimum and maximum sizes for all columns are shown in the CSIZE display.
- If a column has been re-sized, then its current width is treated as its smallest allowable size. When a column is re-sized its current size must fit on the screen completely. For example, on an 80-byte screen with no fixed columns, a 128-byte column can only be re-sized to 80 bytes or less (assuming no conflicting minimum size is associated with the column). If there were two 10-byte fixed columns, for a total fixed area size of 20 bytes, the 128-byte column would be limited to 60 bytes or its minimum allowed size, whichever was smaller.



# Chapter 27. How to read syntax diagrams

The following rules apply to the syntax diagrams that are used in this information:

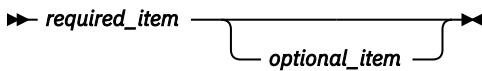
- Read the syntax diagrams from left to right, from top to bottom, following the path of the line. The following conventions are used:

- The `>>---` symbol indicates the beginning of a syntax diagram.
  - The `--->` symbol indicates that the syntax diagram is continued on the next line.
  - The `>---` symbol indicates that a syntax diagram is continued from the previous line.
  - The `---><` symbol indicates the end of a syntax diagram.

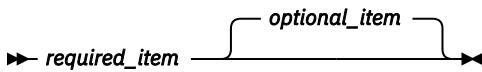
- Required items appear on the horizontal line (the main path).

`►► required_item ►►`

- Optional items appear below the main path.

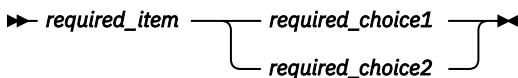


If an optional item appears above the main path, that item has no effect on the execution of the syntax element and is used only for readability.

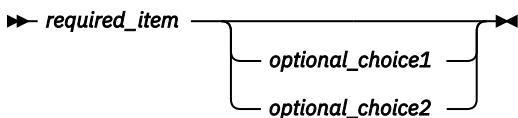


- If you can choose from two or more items, they appear vertically, in a stack.

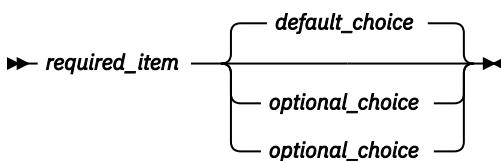
If you *must* choose one of the items, one item of the stack appears on the main path.



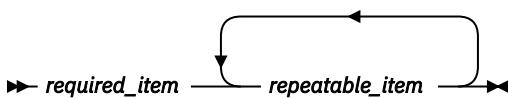
If choosing one of the items is optional, the entire stack appears below the main path.



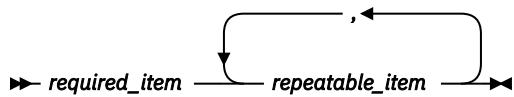
If one of the items is the default, it appears above the main path, and the remaining choices are shown below.



- An arrow returning to the left, above the main line, indicates an item that can be repeated.

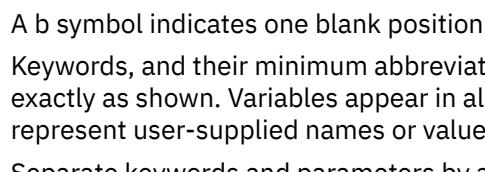
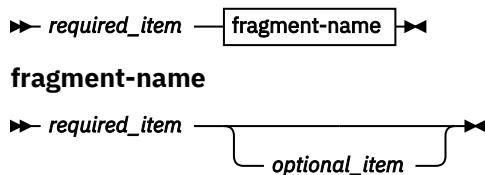


If the repeat arrow contains a comma, you must separate repeated items with a comma.



A repeat arrow above a stack indicates that you can repeat the items in the stack.

- Sometimes a diagram must be split into fragments. The syntax fragment is shown separately from the main syntax diagram, but the contents of the fragment should be read as if they are on the main path of the diagram.



- A b symbol indicates one blank position.
- Keywords, and their minimum abbreviations if applicable, appear in uppercase. They must be spelled exactly as shown. Variables appear in all lowercase italic letters (for example, *column-name*). They represent user-supplied names or values.
- Separate keywords and parameters by at least one space if no intervening punctuation is shown in the diagram.
- Enter punctuation marks, parentheses, arithmetic operators, and other symbols exactly as shown in the diagram.
- Footnotes are shown by a number in parentheses; for example, (1).

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