IBM IMS Administration Tool for z/OS
Version 1 Release 1

User's Guide and Reference
Note:
Before using this information and the product it supports, read the information in “Notices” on page 323.

Fourth Edition (March 2020)
This edition applies to Version 1 Release 1 of IBM IMS Administration Tool for z/OS (program number 5655-CAT) and to all subsequent releases and modifications until otherwise indicated in new editions.
This edition replaces SC27-9011-02.

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IBM® IMS Administration Tool for z/OS® (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

These topics provide instructions for installing, configuring, and using IMS Administration Tool.

To use these instructions, you must have already installed IMS Administration Tool by completing the instructions in the Program Directory for IBM IMS Administration Tool for z/OS (GI13-4331), 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 Administration Tool
• Install and operate IMS Administration Tool
• Customize your IMS Administration Tool environment
• Diagnose and recover from IMS Administration Tool problems
• Use IMS Administration Tool 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:

http://www-01.ibm.com/support/docview.wss?uid=swg27020942

The IMS Tools Product Documentation web page includes:

• Links to IBM Knowledge Center for the user guides (“HTML”)
• PDF versions of the user guides (“PDF”)
• Program Directories for IMS Tools products
• Recent updates to the user guides, referred to as "Tech docs" (“See updates to this information!”)
• Technical notes from IBM Software Support, referred to as "Tech notes"
• White papers that describe product business scenarios and solutions
IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

The topics in this section provide you with overview information for IMS Administration Tool.

**Topics:**
- Chapter 1, “Quick start roadmap,” on page 3
- Chapter 2, “IMS Administration Tool overview,” on page 5
Chapter 1. Quick start roadmap

The following checklist for IMS Administration Tool can help you understand how supporting information is organized and where it is located.

Background information:
• Product overview
  Refer to Chapter 2, “IMS Administration Tool overview,” on page 5.
• Architecture and process flow diagrams
  Refer to “IMS Administration Tool architecture and process flow” on page 8.

Product installation:
• Installation procedures
  IMS Administration Tool is installed by using SMP/E and standard RECEIVE, APPLY, and ACCEPT processing.
  Complete information about installation requirements, prerequisites, and procedures for IMS Administration Tool is located in the *Program Directory for IBM IMS Administration Tool for z/OS, GI13-4331*. 

Product configuration:
• Configuration prerequisites and checklist
  Refer to Chapter 3, “Configuration prerequisites and checklist,” on page 17.
• Initial product customization using IMS Tools Setup
  Refer to Chapter 4, “Initial product customization using IMS Tools Setup,” on page 21.
• Additional and optional product configuration
  Refer to Chapter 5, “Additional and optional product configuration,” on page 23.

Setup and Administration:
• Global settings
  Refer to Chapter 6, “Global settings,” on page 51.
• Update product registry
  Refer to Chapter 7, “Updating the product registry,” on page 53.
• Register IMS systems
  Refer to Chapter 8, “Registering IMS systems,” on page 63.
• Manage IMS groups
  Refer to Chapter 9, “Managing groups,” on page 69.
• View audit log
  Refer to Chapter 10, “Viewing the audit log,” on page 71.
• Configuring message disposition
  Refer to Chapter 11, “Configuring message disposition,” on page 75.
**Using IMS Administration Tool:**
- Database and Application Administration
  Refer to Part 4, "Database and application administration,” on page 79.
- IMS catalog and ACB Library Management
  Refer to Part 5, “IMS catalog management,” on page 105.
- Run IMS Utilities
  Refer to Part 6, “Run IMS utilities (JCL generation),” on page 129.
- IMS SPUFI
  Refer to Part 7, “IMS SPUFI (IMS SQL processing using file input),” on page 153.
- IMS Command Processor
  Refer to Part 8, “IMS command processing,” on page 163.

**Troubleshooting:**
- ATY0 - ATY9 messages
  Refer to “Messages (ATY0 - ATY9)” on page 209.
- IMS SPUFI messages (ATYE, ATYJ, ATYT) and product configuration messages (ATYZ)
  Refer to “Messages (ATYA - ATYZ)” on page 302.
- Abend codes
  Refer to “Abend codes” on page 314.
Chapter 2. IMS Administration Tool overview

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

Topics:
- “What’s new in IMS Administration Tool” on page 5
- “What does IMS Administration Tool do?” on page 6
- “IMS Administration Tool architecture and process flow” on page 8
- “Service updates and support information” on page 13
- “Product documentation and updates” on page 13
- “Accessibility features” on page 14

What's new in IMS Administration Tool

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.

SC27-9011-03 - March 2020
- IMS Administration Tool enhancements by APAR PH15400.
  - Compatibility with batch processing functions of IMS Command Control Facility. See “Migration from IBM IMS Command Control Facility for z/OS” on page 42.
  - A function to specify command job options for IMS command processor batch jobs. See Part 8, “IMS command processing,” on page 163.
- IMS SPUFI (ISPUFI) function enhancement to support processing of SQL statements with an IMS Java™ application (APAR PH19835). See “Setting up a Java environment for IMS SPUFI JBP” on page 40 and Chapter 24, “IMS SPUFI overview,” on page 155.
- Messages added to “Messages (ATY0 - ATY9)” on page 209 and “Messages (ATYA - ATYZ)” on page 302.

SC27-9011-02 - November 2019
- PL/I copybook import support and compare functionality enhancement (IMS directory active and staging data sets) (APAR PI99608). See the following topics:
  - Chapter 14, “Copybook import,” on page 91
  - Chapter 18, “DBD/PSB compare,” on page 117
- New option, ASMAOPT, for changing assembler options used for DBDGEN and PSBGEN (APAR PH08089). See the following topics:
  - Chapter 12, “Database and application administration reference,” on page 81
  - Chapter 13, “IMS resource change,” on page 87
  - “Import objects reference” on page 125
- Command and Audit Log Archive (ATYARCH0) utility enhancement (APAR PH12977). See “Log data archiving: Configure the Command and Audit Log Archive (ATYARCH0) utility” on page 34.
- Support concatenation of load module library data sets (APAR PH11257). Before this APAR, IMS Administration Tool could refer to only one load module library data set. This APAR enhances the tool to
support concatenation of data sets so that user customized load module library can be referred to in addition to the IMS Administration Tool product load module library. See the following topics:

- “Configure VSAM options data set” on page 26
- “Command store/forward: Configure” on page 28

• Copybook import and other enhancements (APAR PH15100). See the following topics:

- Chapter 12, “Database and application administration reference,” on page 81
- Chapter 13, “IMS resource change,” on page 87
- Chapter 14, “Copybook import,” on page 91
- Chapter 15, “DBD and PSB update (ATY@OBJU) JCL,” on page 99
- Chapter 19, “Export objects and import objects,” on page 123

**SC27-9011-01 - May 2018**

• "Job card" changed to "Job statement" throughout.
• Remove "Job Options" references.
• COBOL and PL/I (added) copybooks.
• SPUFI: "MAX CHAR Field Width" option correction.
• Catalog and non-catalog IMS environments summary.
• IMS catalog management business scenarios.
• Scenarios for "Overwrite existing objects".
• Example database maintenance tasks for JCL generation.
• New updated IMS catalog/directory overview.
• In database and application administration and IMS catalog management, use "IMS directory active and staging data set" terminology.

APARS PI88592 (ATY ISPF), PI90728 (ATY MC), PI90085(ATY Discover).

• APAR PI94129 - Support for refreshable user exits for IMS AOI (IMS V14 or later required).
• APAR PI95345 - New field designations and descriptions for Register an IMS Subsystem.
• New topic: The role of dynamic discovery

**What does IMS Administration Tool do?**

IMS Administration Tool provides a comprehensive set of functions and features that can help you with the day-to-day tasks associated with managing IMS environments efficiently and effectively.

IMS Administration Tool is designed to operate as a centralized task management control center. The single user interface provides access to functions that can simplify complex tasks associated with managing IMS databases, applications, and IMS systems. The tool can increase the efficiency of data center resources and reduce the negative impact that data changes can have on your databases.

Core functions include:

• Assist in the administration of IMS databases and applications.
• Help manage the IMS catalog.
• Generate JCL to run IMS utilities.
• Query data interactively.
• Issue IMS commands and view responses.

IMS Administration Tool integrates with and enhances the entire IMS Tools family of products.
IMS Administration Tool provides a common look and feel using standard ISPF specifications. The tool also includes integration with the separately licensed IBM Management Console for IMS and Db2® for z/OS to allow real time management of IMS environments.

**Database and application administration (Object management)**

The database and application administration function provides a method for IMS DBAs to view, create, and change IMS databases (DBDs) and application views (PSBs). Capabilities include:

- Create, alter, view, and model IMS DBD and PSB objects.
- Decode DBDs and PSBs in the IMS directory, DBD libraries, PSB libraries, and ACB libraries to DBD and PSB macro source codes.
- Import COBOL and PL/I copybook changes into DBD macro source.
- Run the DBDGEN, PSBGEN, ACBGEN, and IMS catalog populate utilities immediately, or generate JCL that can be run at a later time.

**IMS catalog and ACB library management**

IMS Administration Tool provides access to the IMS catalog and promotes the use of the IMS catalog by adding significant functionality beyond what is currently available with this IMS feature. Capabilities include:

- Copy objects between the IMS ACB library or IMS directory on one IMS system to the IMS ACB library or IMS directory on another IMS system.
- Compare versions of DBD and PSB resources in the IMS directory with those in the IMS ACB library, or between the IMS directory active data sets and the IMS directory staging data set.
- Generate reports to help analyze the databases (DBDs) and applications (PSBs) defined in the IMS catalog.
- Perform space utilization analysis and view the number of objects and instances in the IMS catalog.
- Include and update individual (or bulk) IMS database definitions (DBD) with schema from COBOL and PL/I copybooks during the import process to the IMS catalog.

Adding or updating schema to individual databases or in bulk can be accomplished either interactively or schedule through a batch process.

**Run IMS utilities (JCL generation)**

IMS Administration Tool can help IMS DBAs automate the process of generating the JCL required to run a sequence of IMS Tools utilities for specific resources in your IMS environment.

The "Run IMS utilities" feature helps automate the JCL generation process and enables you to set up recurring utility jobs for conditional and routine IMS maintenance tasks. Capabilities include:

- Use the ISPF or batch interfaces for generating utility JCL
- Register products and utilities so that these are available to assemble in a JCL job
- Use and modify JCL skeletons and variables to customize jobs

**IMS SQL processing using file input (IMS SPUFI)**

IMS SQL Processing Using File Input (SPUFI) function is a feature to query and update IMS data by SQL statements. This feature helps IMS DBAs develop interactive SQL commands, run the SQL commands, and review the resulting output from the SQL command. Capabilities include:

- Develop and issue interactive SQL statements through the web interface or the ISPF interface
- Run as a batch job
- Maintain persistence of complicated IMS SQL command sets from session to session (rather than being lost when you exit the program)
- Review the resulting output from the IMS SQL command
**IMS command processing**

IMS Administration Tool provides IMS DBAs the capability to issue IMS commands and review command responses. Capabilities include:

- Issue IMS type-1 and type-2 commands and view responses
- Distribute IMS commands to multiple IMS subsystems

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**IMS Administration Tool architecture and process flow**

IMS Administration Tool features can function in a z/OS environment of data sharing IMS systems, and in a non-data sharing environment.

**Technical notes for architecture and process flow diagrams**

The following general notes apply to both functional and data-sharing diagrams in this section.

- Supported web browsers include Google Chrome and Mozilla Firefox.
- Supported web servers include WebSphere® Application Server (WAS) on z/OS and WAS on Windows.
- IMS Tools Base Distributed Access Infrastructure (DAI) is a set of software components that enable authenticated distributed clients access to configured IMS Tools through standard TCP/IP socket communication.
- The TCP server runs in its own z/OS address space and listens for client connections on a user-defined TCP/IP port.
  When a client connects, the client must first pass security system authentication with a valid user ID and password.
  If the authentication is successful, the TCP server acts as a gateway that passes incoming and outgoing messages between the client and the DAI Tools Access Server (TAS).
- Subordinate Tools Access Servers (SOT) are separate address spaces that provide an environment for hosting and running tools requested by a client.
- A single instance of IMS Tools Base Distributed Access Infrastructure (DAI) can support an environment of multiple IMS systems.
  Alternatively, multiple instances of DAI allow scalability and performance improvement while also eliminating a single point of failure.
- The subsystem interface (SSI) allows ISPF client requests to communicate with IMS Tools Base Distributed Access Infrastructure (DAI).
- IMS Operations Manager (OM) controls the operations of an IMSplex and provides an application programming interface through which commands can be issued to IMS and responses received from IMS.

**Component descriptions for architecture and process flow diagrams**

IMS Administration Tool environment consists of the following components:

**IMS databases**

Primary data storage for your organization.

**IMS catalog**

A system database that, when enabled, stores the definitions of your databases and program specification blocks (PSBs), as well as other metadata about your databases and application programs.

Allows IMS to participate in solutions that require the exchange of metadata, such as business impact analysis.

**IMS control blocks: PSBs, DBDs, ACBs**

Data sets containing:
• Program specification blocks (PSB)
  Application program description and use of logical terminals and logical data structures
• Database description block (DBD)
  Defines database characteristics and required for access to any IMS database
• Application control blocks (ACB)
  PSB and DBD combined and expanded before an application can be scheduled and run

**IMS Tools Knowledge Base repositories**

IMS Tools Knowledge Base (a component of IBM IMS Tools Base) provides a common information management service that allows the sharing of data generated and used by multiple tool products within a sysplex.

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.

**Functional architecture and process flow**

The following diagram illustrates the IMS Administration Tool functional architecture and overall process flow.
Figure 1. IMS Administration Tool functional architecture

What this diagram shows:

- Remote web client access from the Management Console.
- Remote client routing through web server (WebSphere Application Server (WAS) on z/OS and WAS on Windows).
- Web client requests handled through IMS Tools Base TCP server and Distributed Access Infrastructure (DAI).
- Local ISPF client access.
• ISPF client requests handled through subsystem interface (SSI) and Distributed Access Infrastructure (DAI).

• DAI Subordinate Tools Access Servers (SOT) handle client requests for specific IMS Administration Tool functions.

• Operations Manager (OM) is required for routing IMS commands.

• The configuration shows multiple instances of IMS.

Data sharing IMS environment architecture and process flow

The following diagram illustrates IMS Administration Tool architecture and overall process flow for a data sharing environment:
What this diagram shows:
- Remote web client access from the Management Console.
- Remote client routing through web server (WebSphere Application Server (WAS) on z/OS and WAS on Windows).
- Web client requests handled through IMS Tools Base TCP server and Distributed Access Infrastructure (DAI).
- Local ISPF client access from either z/OS environment.
- ISPF client requests handled through subsystem interface (SSI) and a single Distributed Access Infrastructure (DAI).
• DAI Subordinate Tools Access Servers (SOT) handle client requests for specific IMS Administration Tool functions.
• Operations Manager (OM) is required for routing IMS commands.
• IMSA and IMSB share the same resources.

**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 Administration Tool for z/OS

**Product documentation and updates**

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:
http://www-01.ibm.com/support/docview.wss?uid=swg27020942

The IMS Tools Product Documentation web page includes:
• Links to IBM Knowledge Center for the user guides ("HTML")
• PDF versions of the user guides ("PDF")
• Program Directories for IMS Tools products
• Recent updates to the user guides, referred to as "Tech docs" ("See updates to this information!")
• Technical notes from IBM Software Support, referred to as "Tech notes"
• 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**

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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 helps IBM to provide quality information. Send any comments that you have about this book or other IMS Tools documentation to comments@us.ibm.com. Include the name and version number of the product and the title and number of the book. If you are commenting on specific text, list the location of the text (for example, a chapter, topic, or section title).

**Accessibility features**

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.
Part 2. Product configuration

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

The topics in this section provide you with guidelines for the configuration of IMS Administration Tool.

Topics:

- Chapter 3, “Configuration prerequisites and checklist,” on page 17
- Chapter 4, “Initial product customization using IMS Tools Setup,” on page 21
- Chapter 5, “Additional and optional product configuration,” on page 23
Chapter 3. Configuration prerequisites and checklist

The information in this topic provides guidelines for the initial installation and configuration of IMS Administration Tool.

IMS Administration Tool requires enhanced product registration information in order to support all IMS Tools products that participate in the IMS Administration Tool environment.

The following checklists provide guidelines for the initial installation and configuration of IMS Administration Tool with either:

- New installations of IMS Tools products, or
- Pre-existing installations of IMS Tools products

Conditions and prerequisites for product configuration

The installation, configuration, and operation of IMS Administration Tool has the following conditions:

- Installation and configuration of IBM IMS Tools Base V1.6 (or later) with the latest maintenance updates (PTFs) is required
- Installation and configuration of IMS Library Integrity Utilities with the latest maintenance updates (PTFs) is required to enable the following functions of IMS Administration Tool:
  - View IMS databases (DBDs) and program views (PSBs) for database and application administration
  - IMS catalog management
  - Program view for IMS SPUFI
- Installation and configuration of other IMS Tools solution pack products is optional.

Configure a new installation of IMS Administration Tool and any IMS Tools solution packs

The following steps assume that you are performing configuration for an initial installation of IMS Administration Tool with new installations of other IMS Tools solution packs and/or stand-alone IMS Tools products.

Table 1. Configuration checklist for new product installations

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install IBM IMS Tools Base</td>
<td>Install IBM IMS Tools Base V1.6 or later (SMP/E). Refer to the IMS Tools Base Program Directory for installation requirements and procedures.</td>
</tr>
<tr>
<td>2</td>
<td>Apply updates</td>
<td>Apply the latest maintenance updates (PTFs) for IBM IMS Tools Base V1.6.</td>
</tr>
<tr>
<td>3</td>
<td>Install IMS Administration Tool</td>
<td>Install IMS Administration Tool (SMP/E). Refer to the IMS Administration Tool Program Directory for installation requirements and procedures.</td>
</tr>
<tr>
<td>4</td>
<td>Apply updates</td>
<td>Apply the latest maintenance updates (PTFs) for IMS Administration Tool.</td>
</tr>
</tbody>
</table>
**Table 1. Configuration checklist for new product installations (continued)**

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Install IMS Tools solution packs (Optional)</td>
<td>Install any IMS Tools solution packs (SMP/E). Refer to the appropriate product Program Directories.</td>
</tr>
<tr>
<td>6</td>
<td>Apply updates</td>
<td>Apply the latest maintenance updates (PTFs) for the installed IMS Tools solution packs.</td>
</tr>
<tr>
<td>7</td>
<td>Run IMS Tools Setup</td>
<td>Run IMS Tools Setup to provide initial configuration for the installed IMS Administration Tool and the installed IMS Tools solution packs. From the initial IMS Tools Setup panels, be sure to select all products that you have installed.</td>
</tr>
</tbody>
</table>

**Configure a new installation of IMS Administration Tool with any pre-existing IMS Tools solution packs**

The following steps assume that you are performing configuration for an initial installation of IMS Administration Tool with pre-existing installations of other IMS Tools solution packs and/or stand-alone IMS Tools products.

The following steps assume that you have pre-existing installation and configuration of IBM IMS Tools Base V1.6 and any IMS Tools solution packs or stand-alone IMS Tools products.

**Note:** IMS Tools Base components must be installed and configured before IMS Administration Tool and IMS Tools solution pack configuration. When you run IMS Tools Setup to configure the new installation of IMS Administration Tool, IMS Tools Setup also makes any additional required modifications to the existing IMS Tools Base configuration.

**Table 2. Configuration checklist for pre-existing product installations**

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Apply updates for IBM IMS Tools Base</td>
<td>Apply the latest maintenance updates (PTFs) for IBM IMS Tools Base V1.6 (or later).</td>
</tr>
<tr>
<td>2</td>
<td>Apply updates for IMS Tools solution packs</td>
<td>Apply the latest maintenance updates (PTFs) for the installed IMS Tools solution packs.</td>
</tr>
<tr>
<td>3</td>
<td>Install IMS Administration Tool</td>
<td>Install IMS Administration Tool (SMP/E). Refer to the IMS Administration Tool Program Directory for installation requirements and procedures.</td>
</tr>
<tr>
<td>4</td>
<td>Apply updates for IMS Administration Tool</td>
<td>Apply the latest maintenance updates (PTFs) for IMS Administration Tool.</td>
</tr>
<tr>
<td>Step</td>
<td>Task</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>5</td>
<td>Run IMS Tools Setup</td>
<td>Run IMS Tools Setup to provide initial configuration for the newly installed IMS Administration Tool and the pre-existing IMS Tools solution packs. From the initial IMS Tools Setup panels, be sure to select only IMS Administration Tool to configure. IMS Tools Setup only configures IMS Administration Tool. IMS Tools Setup maintains the configuration of pre-existing IMS Tools products.</td>
</tr>
</tbody>
</table>
IMS Tools Setup is a function that helps you quickly and efficiently perform the required post-SMP/E-installation customization process for IMS Tools solution pack products. IMS Tools Setup is provided by IBM IMS Tools Base Version 1 Release 6 and later releases.

What does IMS Tools Setup do?

After the selected IMS Tools solution pack products have been installed into SMP/E data sets, IMS Tools Setup provides a process to simplify the initial configuration that is required to begin using the products. IMS Tools Setup generates JCL members that you then submit as jobs, or perform as tasks, to complete the customization process.

IBM IMS Tools Base components are also configured and customized during the IMS Tools Setup process. IBM IMS Tools Base provides important supporting components and infrastructure that are required for the operation of many IMS Tools functions, such as storage repositories, autonomas, and interaction with IMS.

The goal of IMS Tools Setup is to greatly ease the time and effort it takes to have IMS Tools products up and running in your environment.

IMS Tools Setup is intended only for initial product installations, first-time users, and product evaluations. IMS Tools Setup is not intended for maintenance purposes.

IMS Tools products that can use IMS Tools Setup

The following IMS Tools products and solution packs can use IMS Tools Setup for initial configuration:

- IBM IMS Tools Base
- IBM IMS Database Solution Pack for z/OS
- IBM IMS Fast Path Solution Pack for z/OS
- IBM IMS Recovery Solution Pack for z/OS
- IBM IMS Database Utility Solution for z/OS
- IBM IMS Administration Tool for z/OS
- IBM IMS Cloning Tool for z/OS
- IBM IMS Program Restart Facility for z/OS

Starting IMS Tools Setup

The IMS Tools Setup function (HKTQSETU) can be found in IBM IMS Tools Base Version 1 Release 6 and later releases. You can start the function by running the following REXX EXEC:

EXEC 'smpehlq.SHKTCEXE(HKTQSETU)’ ‘HLQ(smpehlq)'

Note: Where smpehlq is the high level qualifier for the IMS Tools Base SMP/E data sets.

The IMS Tools Setup ISPF panels provide an organized and logical approach to the customization tasks. The panels explain the operation and sequence of each member that is generated in the CUSTJCL data set. The correct JCL job and task operation order is very important.

Each panel contains embedded panel-context and individual field-context Help information. All information about using IMS Tools Setup is contained in the embedded Help. There is no separate user guide.
Completing IMS Tools Setup

After you run the HKTQSETU REXX EXEC, you can refer to the $$READ member in the generated hlq.CUSTJCL data set to view summary information about the JCL members that were generated. Additionally, all individual hlq.CUSTJCL members contain detailed descriptions of the functions for each job.

Each of the generated JCL members begin with "#" and are named in the logical sequence of operation. Any members ending with "@" require manual steps. You must begin with the first #xxxx member and submit the JCL job or perform the task. After that job or task completes, you continue on to the next member and submit that JCL job or perform that task, and so forth.

The first few members are all system-related (APF, LPA, SSN, MVSPPT), followed by security related members, TCP/IP administration, DBA related members, and others.

You must process all members in the correct order to complete the full customization task properly. Each JCL member has its own descriptive comment section that explains what the member does and which group it might belong to.

Starting IMS Administration Tool ISPF dialog

Follow the instructions in member #D9ISPF@ or #T9ISPF@ in the hlq.CUSTJCL data set to start the IMS Administration Tool ISPF dialog.
Chapter 5. Additional and optional product configuration

The topics in this section provide information to perform additional and optional product customization for IMS Administration Tool.

After the selected IMS Tools solution pack products have been installed into SMP/E data sets, IMS Tools Setup provides an automated process to perform the initial configuration that is required to begin using the products. The configuration process provides each product with the necessary registration information required to successfully interact with other IMS Tools products. IMS Tools Setup generates JCL members that you then submit as jobs, or perform as tasks, to complete the customization process.

IMS Tools Setup is intended only for initial product installations, first-time users, and product evaluations. IMS Tools Setup is not intended for maintenance purposes.

The following topics include additional and optional configuration procedures that are not provided by IMS Tools Setup, but that might be required for your environment.

Topics:
- “Setting up IMS Library Integrity Utilities for IMS Administration Tool” on page 23
- “Implementing user exit routines” on page 24
- “Configure VSAM options data set” on page 26
- “Command store/forward: Configure” on page 28
- “Command store/forward: Activate (REDO BMP)” on page 30
- “Command store/forward: Schedule (REDO BMP)” on page 31
- “Command log: Configure a DASD-only log stream” on page 32
- “Command log: Configure a coupling facility log stream” on page 33
- “Log data archiving: Configure the Command and Audit Log Archive (ATYARCH0) utility” on page 34
- “Log stream security” on page 38
- “Secure the IMS Administration Tool functions” on page 38
- “Setting up IMS Administration Tool in an IMS system” on page 39
- “Setting up a Java environment for IMS SPUFI JBP” on page 40
- “Migration from IBM IMS Command Control Facility for z/OS” on page 42

Setting up IMS Library Integrity Utilities for IMS Administration Tool

The IMS Tools Setup process includes the configuration of IMS Library Integrity Utilities. However, if you do not configure IMS Library Integrity Utilities at initial installation of IMS Administration Tool and you need to configure IMS Library Integrity Utilities separately at a later time, complete the following steps.

About this task

If you have IMS Library Integrity Utilities installed, register IMS Library Integrity Utilities to the IMS Tools Knowledge Base server. Registering IMS Library Integrity Utilities enables the following IMS administrative functions in IMS Administration Tool:

- View IMS databases (DBDs) and program views (PSBs) for database and application administration
- IMS catalog management
- Program view for IMS SPUFI
Procedure

1. Apply the latest maintenance updates (PTFs) to IMS Library Integrity Utilities.
2. Browse the started task procedure JCL for the Distributed Access Infrastructure Subordinate Tools Access Server (SOT).
   a) Ensure that the IBM IMS Tools Base SGLXLOAD data set is in the //STEPLIB DD concatenation.
   b) Ensure that all the IMS Tools Base data sets that are concatenated to the //STEPLIB DD are APF authorized.
3. Register IMS Library Integrity Utilities to IMS Tools Knowledge Base by running the latest IMS Tools Knowledge Base registration job for IMS Library Integrity Utilities. For more information about the registration job and the procedure, refer to the Tools Base Configuration Guide for IMS.
4. APF authorize the data set that is specified on the //SHPSLMD0 DD statement of the registration job.

Implementing user exit routines

Beginning with IMS V14, you can implement the IMS automated operator interface (AOI) as a refreshable user exit. Refreshable user exits can call multiple exit routines of that type (for example, AOIE) at the same exit point.

For IMS Administration Tool, the IMS automated operator interface (AOI) uses:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

DFSAOE00 is not used if you are implementing a refreshable exit routine.

Implementing refreshable user exits

To support refreshable user exits in IMS Administration Tool, the following conditions apply:

- A refreshable user exit does not use a DFSAOE00 alias.
- A refreshable user exit can be installed in a PDS or PDSE library.
- ATYAOE00 must be added to the AOIE USER EXIT list of DFSDFxxx in the subsystem PROCLIB.
- The "User DFSAOE00 Name" field (Setup and Administration > Register an IMS Subsystem) must be left blank.

ATYAOE00 ignores any entered value if the SXPL_F1ENHSRV flag is on.

To implement refreshable user exits in IMS Administration Tool, use the following steps as guidelines:

1. Define refreshable user exit routines as values of the EXITDEF parameter in the USER_EXITS section of the IMS DFSDFxxx member of the IMS PROCLIB data set.

   Use ATYAOE00, if you are implementing a refreshable user exit.

   For example:

   `<SECTION=USER_EXITS>
   EXITDEF=(TYPE=A01E,
   EXITS=(ATYAOE00 ))`

2. Remove the ATYAOE00 alias of DFSAOE00 from SATYLOAD.

3. Update the IMS control region started task JCL by adding the SATYLOAD library to the STEPLIB concatenation.

4. Use the IMS Administration Tool ISPF dialog "Setup and Administration > Register IMS Systems" to select the appropriate IMS system.

5. Ensure the "User DFSAOE00 Name" field is blank.

   DFSAOE00 is not used if you are implementing a refreshable user exit routine.
6. Restart the IMS system.

7. Verify the implementation of the user exit by reviewing IMS Administration Tool messages in the IMS control region z/OS log.

   If implementation is successful, message ATY8101I (ATYLOGR INITIALIZATION COMPLETE) should be present.

Implementing non-refreshable user exits

To support non-refreshable user exits in IMS Administration Tool, the following conditions apply:

• The non-refreshable user exit must be installed in a PDS library.

To implement a non-refreshable user exit in IMS Administration Tool, use the following steps as guidelines:

1. To determine whether the AOI exit has already been implemented, check to see if the STEPLIB concatenation contains a DFSAOE00 entry.

   If a DFSAOE00 entry exists, browse the module and search for a character string of ATYAOE00 (the exit provided by IMS Administration Tool).

   If the string ATYAOE00 is present, the AOI non-refreshable exit has already been implemented.

2. Copy ATYAOE00 and its shipped alias to a PDS library.

   Update the IMS control region started task JCL by adding this PDS library to the STEPLIB concatenation.

3. It is possible for DFSAOE00 to conflict with a user-defined DFSAOE00 or another vendor product user AOI exit.

   If you already have an existing DFSAOE00 exit in SDFSRESL, or another library in the STEPLIB concatenation of your IMS control region, you must rename that existing exit to another name that meets your requirements.

   The recommended name is DFSAOE01.

   (The IMS DFSAOE00 exit calls the renamed DFSAOE01 exit, if present.)

4. Perform this next step if you renamed an existing DFSAOE00 exit.

   (If there is no DFSAOE00 to rename in Step 3, there is no need to perform this step.)

   Use the IMS Administration Tool ISPF dialog (Setup and Administration > Register an IMS Subsystem) to specify the appropriate IMS system.

   In the "User DFSAOE00 Name" field, specify the renamed DFSAOE00 exit (for example: DFSAOE01).

   If you do not use a user-defined DFSAOE00 exit, then you can leave the "User DFSAOE00 Name" field blank.

5. Restart the IMS system.

6. Verify the implementation of the user exit by reviewing IMS Administration Tool messages in the IMS control region z/OS log.

   If implementation is successful, message ATY8101I (ATYLOGR INITIALIZATION COMPLETE) should be present.

If you intend to continue using an existing DFSAOUE0 exit, the following additional considerations apply:

• If IMS Administration Tool is being used to suppress a specific message, the existing DFSAOUE0 exit cannot handle the same message.

• If IMS Administration Tool is being used to create an AOI automation token for a specific message, the existing DFSAOUE0 exit cannot handle the same message.

• IMS Administration Tool cannot route command response messages to the AOI automation token if you are using your own DFSAOUE0 exit, or an exit from another vendor.
Configure VSAM options data set

The VSAM options data set is a required data set for IMS Administration Tool. It contains information about IMS systems, IMS command groups, global options and job options for the IMS command processor, and message option tables.

About this task

The following procedure explains step-by-step tasks to configure the VSAM options data set.

These tasks can be accomplished with JCL members in the CUSTJCL data set, which are generated by IMS Tools Setup. If you have executed CUSTJCL jobs, you do not need to go through the following steps.

Procedure

1. Allocate and initialize the VSAM options data set (ATYODINI)

   Customize and run the JCL located in member ATYODINI of the IMS Administration Tool sample library (SATYSAMP) to allocate and initialize the VSAM options data set.

   ```
   hlq.SATYSAMP(ATYODINI)
   ```

   The JCL contains descriptive comments to help you customize the job correctly.

2. Build the ATY#OPTS load module

   Customize and run the JCL located in member ATYASMOP of the IMS Administration Tool sample library (SATYSAMP) to build the ATY#OPTS load module that is used by IMS Administration Tool for dynamic allocation of the options data set.

   ```
   hlq.SATYSAMP(ATYASMOP)
   ```

   This module must reside in a STEPLIB library for all jobs that run IMS Administration Tool programs. The JCL contains descriptive comments to help you customize the job correctly.

3. Register the load library data set to DDNAME variable SYSLOAD

   Register the load library data set that contains the module to DDNAME variable SYSLOAD with scope=SYSTEM.

   To register a DDNAME variable, use the ISPF interface or the web interface:

   - ISPF: **0 Setup and Administration > 1 Update Product Registry > 3 Variable Management**
   - Web interface: **Setup and Admin > Variable Management**

4. Specify the load library to IMS

   Update the IMS control region JCL and the OM region JCL by adding the SYSLOAD library to the STEPLIB concatenation. Restart the IMS system.

Processing characteristics and environmental data

IMS command processing characteristics and environmental information are stored in the VSAM options data set.

IMS command batch job processing characteristics are generally stored in the IMS command global options records and IMS command job options records. Most information defined in these records can be overridden by using the ATYOPTS ddname input statement.

Environmental data is defined in the IMS records and IMS command group records in the VSAM options data set.
IMS command global options record

The IMS command global options record is used to store default processing options for IMS command processing.

The IMS command global options record contains two types of options:

- Options that are in effect for every batch job
- Options that are used unless a matching jobname record is found

Options used with every batch job

The following fields are used for every batch job:

- ddname
- /ATYMOD failure
- /ATYMOD COMMIT reversal
- Expand DATAGRP
- Treat DFS3466I as error
- Add NOFEOV to /DBD and /DBR

Options used for absent matching jobname record

The following fields are used in the absence of a matching jobname record:

- Command retry attempts
- Command retry interval
- Abend/return code values
- Error handling options
- Valid return codes from message DFS0488I
- Valid return codes from IMS Operations Manager
- Database ACCESS parameter determination option
- DBRC checking option
- WTO database command option

IMS command jobname options record

The IMS command jobname options record contains many fields that are same as the IMS command global options record.

Use the IMS command jobname options record to apply different processing options from the values set in the IMS command global options.

The following fields in this record override the options in the IMS command global options record:

- Command retry attempts
- Command retry interval
- Abend/return code values
- Error handling options
- Valid return codes from message DFS0488I
- Valid return codes from IMS Operations Manager
- Database ACCESS determination option
- DBRC checking option
- WTO database command option
IMS system record
The IMS system record contains information that IMS Administration Tool needs about each IMS to build and process commands.

Every IMS target of an IMS Administration Tool command must have an IMS system record defined.

The IMS system information (release, DFSVNUC suffix, and MODBLKS DSN) are used when a /STA DB ACCESS command is issued and the USE SYSGEN option is selected in the Global option.

The DFSAOE00 information (IMS Administration Tool logger name, user DFSAOE00 name, and message disposition table name) are used by the IMS Administration Tool message log and message disposition processing.

The IMS automated operator interface (AOI) exit is implemented as:
• DFSAOE00, if you are implementing a non-refreshable user exit.
• ATYAOE00, if you are implementing a refreshable user exit.

DFSAOE00 is not used if you are implementing a refreshable exit routine.

Command group record
IMS Administration Tool requires a group record to route commands to more than one IMS system.

When a batch job issues DATABASE/AREA commands to a command group, IMS Administration Tool ensures that the command completes successfully for each member of the group.

When the command driver runs as an IMS BMP or IMS DL/I batch job, IMS Administration Tool obtains the group name from the APARM data, if present. If the group name is not present in the APARM data, the group is obtained from the default group name in the IMS system record.

When the command driver runs as a z/OS batch job, the group name is obtained from the PARM statement.

It is recommended that only IMS regions that share the same databases and the same IMS RECON data sets be defined in the same command group. All members of a command group must belong to the same IMSplex.

The following commands are not routed to all members of a command group:
• DATABASE/AREA commands with the GLOBAL parameter
• /RMx commands (EXCEPT "/RML DBRC=RECON STATUS")

Command store/forward: Configure
The command store/forward feature saves commands that fail because a member of a command group is unavailable. The retained commands are then reissued when the group member returns.

Technical notes for command store/forward
Command store/forward is an optional feature that can keep all members of a command group in synchronization.

You use command store/forward in an IMSplex to ensure that resources are in the same state (for example, stopped or started) across all members of the IMSplex.

Command store/forward consists of two components:
• Store/forward VSAM data set
  IMS Administration Tool batch jobs (IMS BMP, IMS DL/I batch, or standard z/OS batch) use this data set to store failed commands.
• REDO BMP
The REDO BMP reads the store/forward VSAM data set and issues all of the commands that failed for a particular IMS system. You should reschedule the REDO BMP immediately at IMS startup.

The REDO BMP uses the ICMD/RMCD AOI to issue the commands, which means that the user ID that is associated with this BMP needs authorization for all required commands.

**Procedure**

1. Allocate and initialize the VSAM command store/forward data set (ATYSTF)
   
   Customize and run the JCL located in member ATYSTF of the IMS Administration Tool sample library (SATYSAMP) to allocate and initialize the VSAM command store/forward data set.
   
   ```
   hlq.SATYSAMP(ATYSTF)
   ```
   
   The JCL contains descriptive comments to help you customize the job correctly.

2. Build the ATYSTFWD load module
   
   Customize and run the JCL located in member ATYASMSF of the IMS Administration Tool sample library (SATYSAMP) to build the ATYSTFWD load module that is used by IMS Administration Tool for dynamic allocation of the command store/forward data set.
   
   ```
   hlq.SATYSAMP(ATYASMSF)
   ```
   
   This module must reside in a STEPLIB library for all jobs that run IMS Administration Tool programs.
   
   The JCL contains descriptive comments to help you customize the job correctly.

3. Store the ATYSTFWD load module in the SYSLOAD data set
   
   When you configured the VSAM option data set (as described in “Configure VSAM options data set” on page 26), you registered the load library data set that contains module ATY#OPTS to variable SYSLOAD and specified the load library data set to IMS. You must store the ATYSTFWD load module in the same load library data set so that IMS Administration Tool can refer to the ATYSTFWD load module through the data set registered to variable SYSLOAD.

**Command store/forward restrictions**

The following restrictions apply to the command store/forward feature:

- Option for Routing errors must be set to ignore.
- Command store/forward is active only when there is more than one IMS in the command group.
- A command must be successful for at least one IMS in the command group.

If the command fails for all systems in the command group, it is not written to the store/forward VSAM data set.

The following commands are not candidates for store/forward processing:

- Commands routed to a specific IMS.
- Commands with the GLOBAL parameter.
- DBRC commands (/RMx).
- /MOD commands.

Failed commands are saved in the store/forward VSAM data set only when IMS Administration Tool command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch).
Command store/forward: Activate (REDO BMP)

The REDO BMP reads the store/forward VSAM data set and issues all of the commands that failed for a particular IMS system.

You should reschedule the REDO BMP immediately at IMS startup.

The REDO BMP uses the ICMD/RMCD AOI to issue the commands, which means that the user ID that is associated with this BMP needs authorization for all required commands.

Technical notes for command store/forward

The ROUTING=IGNORE option must be set for all IMS Administration Tool batch jobs that can have their commands stored for later processing by the IMS Administration Tool REDO BMP.

Setting the routing error option to IGNORE can be performed from the IMS Administration Tool Global Options panel.

Alternatively, you can specify the ROUTING=IGNORE option in the IMS Administration Tool batch job JCL from the ATYOPTS DD statement.

Procedure

Perform the following steps to activate the REDO BMP:

1. Customize and run the JCL located in member ATYBMPR of the IMS Administration Tool sample library (SATYSAMP) to activate the REDO BMP for command store/forward.

   hlq.SATYSAMP(ATYBMPR)

   The JCL contains descriptive comments to help you customize the job correctly.

2. Specify any required commands in the ATYPRE and ATYPOST input data sets.

   The REDO BMP executes the commands in the ATYPRE data set before running the commands in the store/forward data set.

   The commands in the ATYPOST data set are run after all commands for the particular IMS system in the store/forward data set are run.

3. Ensure that the REDO BMP has proper authority:

   a. For IMS type-1 commands, REDO BMP issues commands to IMS by using the ICMD/RCMD AOI.

      Therefore, the user ID that is associated with this BMP needs authority to execute all required commands.

   b. For IMS type-2 commands, the REDO BMP issues commands to IMS by using the IMS Operations Manager.

      Therefore, the user ID that is associated with this BMP needs authority to execute all required commands.

   c. If the IMS uses AGN security, the user ID that is associated with the BMP will require authority to connect to the AGN.

   The REDO BMP must be scheduled immediately when IMS is started and before the system is opened up for processing.

REDO BMP JCL specifications

Sample JCL for the REDO BMP can be found in SATYSAMP(ATYBMPR).

The following ddname statements are required for the REDO BMP JCL:
ATYPRINT DD
ATYPRINT is an output data set that lists the commands for which execution was attempted during BMP processing.

ATYPRINT is defined as LRECL=131 and RECFM=FBA.

The output can be sent to SYSOUT or a data set.

ATYPRE DD
ATYPRE is an input data set that contains commands to be executed before the commands in the store/forward data set.

ATYPRE is defined as LRECL=80 and RECFM=FB.

ATYPOST DD
ATYPOST is an input data set that contains commands to be executed after all of the commands for this particular IMS system are processed from the store/forward data set.

ATYPOST is defined as LRECL=80 and RECFM=FB.

Sample JCL for the REDO BMP:

```plaintext
//jobname JOB
//*
//STEP01 EXEC PGM=DFSRRC00,
//    PARM=(BMP,ATYPRE0,ATYPRE0,,,,,,,,,,,imsid)
//STEPLIB DD DISP=SHR,DSN=reslib
//                  DD DISP=SHR,DSN=ccf.loadlib
//ATYPRINT DD SYSOUT=*  //ATYPRE DD *
//ims commands */  //ATYPOST DD *
//ims commands
```

**Command store/forward: Schedule (REDO BMP)**

The REDO BMP must be scheduled immediately when IMS is started and before the system is opened up for processing.

**About this task**
The following steps describe the recommended procedure for scheduling the REDO BMP process:

**Procedure**
1. Start the IMS control region.
2. Use TCO to start REDO BMP immediately at IMS start up.
3. Add the following commands to the ATYPRE input data set:
   ```plaintext
   /STO CLASS ALL
   /STA REG for all required message regions
   ```
4. Add the following commands to the ATYPOST input data set:
   ```plaintext
   /STA CLASS ALL
   /STA DC
   /STA APPC (if used)
   /RST LINK ALL (if used)
   ```

**What to do next**
Once these actions are completed, command store/forward saves all commands that encounter routing errors in the store/forward VSAM data set.

The following conditions apply:
• For commands that are routed using the APPC/IMS connection, a routing error is an APPC failure.
• For commands that are routed using the IMS OM, a routing error is identified as a member of the IMS Administration Tool group being not active in the IMSplex.

A timestamp is added to the commands when they are written to the store/forward VSAM data set. The timestamp ensures the commands are subsequently executed in the proper sequence.

**Command log: Configure a DASD-only log stream**

An IMS command log provides a single point of reference for reviewing IMS messages, commands, and command responses. A command log can be used for an individual IMS region or multiple IMS regions within a sysplex.

You must choose the type of log stream that you want to use to store all eligible commands and messages. You can define the System Logger log stream either as DASD-only or to the coupling facility:

- Define the log stream as DASD
  If you do not have a coupling facility, you must define the log stream as DASD-only.
- Define the log stream to the coupling facility if the log stream needs to be shared across multiple z/OS LPARs

Consider the following information when you define the command log as a DASD-only log stream:

- DASD-only log streams are single-system in scope.
  You must consider the implications of moving an IMS system from one z/OS image to another because DASD-only log streams cannot be shared across z/OS images.
- You can define separate log streams for each IMS system running on a particular z/OS image.
- To use the ISPF message log viewer, you must log on to the TSO running on the same z/OS image where the DASD-only log stream is defined.
- IMS Administration Tool archive jobs need to run on the same z/OS image where the log stream is defined.
- If an IMS system is being moved from one z/OS image to another, an IMS Administration Tool archive job might need to be run on the original z/OS image before running an archive on the new image (archive data set naming convention, GDG sequencing).

See “Defining a DASD-only log stream” on page 32.

**Defining a DASD-only log stream**

You can define the DASD-only log stream for the command log by using the z/OS administrative data utility IXCMIAPI.

**Before you begin**

To use the command log feature, you must have storage management subsystem (SMS) active at your installation and the z/OS System Logger (LOGR) must be implemented. Most z/OS installations already have the LOGR policy set up.

**Restriction:** If the log stream is shared across z/OS images, it must be defined to the coupling facility. It cannot be defined as a DASD-only log stream. See “Defining a coupling facility log stream” on page 34.

**About this task**

You can name a command log stream to be the same as the global IMS Administration Tool audit log stream (recommended), or alternatively, you can specify a separate command log stream for each individual IMS subsystem.
The JCL provided in member ATYLOGR1 in the SATYSAMP sample library (hlq.SATYSAMP(ATYLOGR1)) can be used as a model for defining this log stream. Before submitting the JCL, make any necessary changes after considering the following information:

**Procedure**

1. Chose a value for the high-level qualifier (HLQ) based on your installation requirements for SMS data set naming conventions.
   
   Many environments default to IXGLOGR. Consult with your z/OS system programmer before making this selection.

2. Chose any valid 1- to 26-character name for the log stream name.

3. If you will be using the IMS Administration Tool archive utility to delete unneeded messages that are stored in the message log, specify AUTODELETE(NO).

   Otherwise the system logger might delete log records before you have had a chance to archive them.

   | ATY8108I - ATYA0E00 ANCHOR ESTABLISHED AT 1DF99000 |
   | ATY8406I - ATY LOGSTREAM CONNECTED |
   | ATY8106I - ATY USING MAXBUFSIZE  560 LOGSTREAM SYSLOG.IEA1.ATY.LOGGER |
   | ATY8101I - ATYLOGR INITIALIZATION COMPLETE |
   | ATY8310I - INITIALIZATION COMPLETED |

   **Note:** Log stream connect messages need to appear in both the Control Region and the Operations Manager region.

4. Consult *MVS Setting Up a Sysplex* for additional information about using the administrative data utility (IXCMIAPU) for SMS-related parameters and any of the other additional parameters that might be necessary to define log streams at your installation.

**Command log: Configure a coupling facility log stream**

An IMS command log provides a single point of reference for reviewing IMS messages, commands, and command responses. A command log can be used for an individual IMS region or multiple IMS regions within a sysplex.

You must choose the type of log stream that you want to use to store all eligible commands and messages. You can define the System Logger log stream either as DASD-only or to the coupling facility:

- Define the log stream as DASD
  
  If you do not have a coupling facility, you must define the log stream as DASD-only.

- Define the log stream to the coupling facility if the log stream needs to be shared across multiple z/OS LPARs

A coupling facility is a special logical partition that provides high-speed caching, list processing, and locking functions in a sysplex. IMS saves global information in the coupling facility. Therefore, all of the IMS systems in the IMSplex have access to the global information.

Consider the following information when you define the message log as a coupling facility log stream:

- Coupling facility log streams can be shared across an entire sysplex.
- The same coupling facility log streams can be used by multiple IMS systems running on any z/OS image in the sysplex.
- Moving an IMS system from one z/OS image to another in the same sysplex does not require any additional setup.
- To use the ISPF message log viewer, you can log on to TSO on any z/OS image in the sysplex.
- IMS Administration Tool archive jobs can run on any z/OS image in the sysplex.

See “Defining a coupling facility log stream” on page 34.
Defining a coupling facility log stream
You can define the coupling facility log stream for the command log by using the z/OS administrative data utility IXCMIAPU.

Before you begin
To use the IMS Administration Tool message log feature, you must have storage management subsystem (SMS) active at your installation and the z/OS System Logger (LOGR) must be implemented. Most z/OS installations already have the LOGR policy set up.

About this task
You can use the JCL that is provided in member ATYLOGR2 in the SATYSAMP sample library (hlq.SATYSAMP(ATYLOGR2)) as a model for defining this log stream. Before submitting the JCL, make any necessary changes after considering the following information:

Required settings for ATYLOGR2:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVGBUFSIZE</td>
<td>560</td>
</tr>
<tr>
<td>MAXBUFSIZE</td>
<td>560</td>
</tr>
</tbody>
</table>

Procedure
1. Choose a value for the high-level qualifier based on your installation requirements for SMS data set naming conventions.
   Many environments default to IXGLOGR. Consult with your z/OS system programmer before making this selection.
2. Chose any valid 1- to 26-character name for the log stream name.
3. If you will be using the IMS Administration Tool archive utility to delete unneeded messages that are stored in the message log, specify AUTODELETE(NO).
   Otherwise the system logger might delete log records before you have had a chance to archive them.

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Message Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY8108I</td>
<td>ATYAOE00 ANCHOR ESTABLISHED AT 1DF99000</td>
</tr>
<tr>
<td>ATY8406I</td>
<td>ATY LOGSTREAM CONNECTED</td>
</tr>
<tr>
<td>ATY8106I</td>
<td>ATY USING MAXBUFSIZE 560 LOGSTREAM SYSLOG.IEA1.ATY.LOGGER</td>
</tr>
<tr>
<td>ATY8101I</td>
<td>ATYLOGR INITIALIZATION COMPLETE</td>
</tr>
<tr>
<td>ATY0310I</td>
<td>INITIALIZATION COMPLETED</td>
</tr>
</tbody>
</table>

4. Consult MVS Setting Up a Sysplex for additional information about using the administrative data utility (IXCMIAPU) for SMS-related parameters and any of the other additional parameters that might be necessary to define log streams at your installation.

Log data archiving: Configure the Command and Audit Log Archive (ATYARCH0) utility
IMS Administration Tool provides the Command and Audit Log Archive (ATYARCH0) utility that copies old log data to a DSORG=PS data set, and simultaneously marks it eligible for deletion. The ATYARCH0 utility supports both command log data and audit log data. You can select the log records to archive; command log records, audit log records, or both.

The ATYARCH0 utility provides several options for determining what log records are considered old, and therefore subject to archiving/deletion. Most of the archiving options archive only log records that were written prior to the current date. Use the MAX control card if you must archive log records from the current date.

If the log data needs to be kept for historical purposes, the retention period must be high enough so that the z/OS System Logger will not delete the log data before it is off-loaded by the ATYARCH0 utility.
The output log data is displayed in the same format as the log of "View Audit Log". To check the format, use either the IMS Administration Tool web interface or the ISPF interface: Setup and Administration > View Audit Log.

Subsections:
- “ATYARCH0 JCL” on page 35
- “EXEC statement” on page 35
- “DD statements” on page 35
- “SYSIN control statements” on page 36
- “SYSIN control statement examples” on page 37

ATYARCH0 JCL

Sample JCL for archiving log data can be found in the SATYSAMP sample library, member ATYARCH0.

```
//ATYARCH0  JOB  (TECH),ATYARCH0,CLASS=A,MSGCLASS=H,  
//      REGION=4M,NOTIFY=&SYSUID,COND=(0,NE)
//*  *------------------------------------------------------------------*
//* IBM*  
//** LICENSED MATERIALS - PROPERTY OF IBM  
//** 5655-CAT  
//* COPYRIGHT IBM CORPORATION 2019  ALL RIGHTS RESERVED.  
//** COPYRIGHT ROCKET SOFTWARE, INC. 2019 ALL RIGHTS RESERVED. 
//** TRADEMARK OF INTERNATIONAL BUSINESS MACHINES  
//** TRADEMARK OF ROCKET SOFTWARE, INC.  
//  *------------------------------------------------------------------*
//*-------------------------------------------------------------------*
//* CHANGES:  
//*  YY-MM-DD REL APAR DESCRIPTION  
//* -------- --- ------- --------------------------------------------- 
//* 19-06-06 110 PH12977 ARCHIVE AUDIT LOG SUPPORT  
//*  *------------------------------------------------------------------*
  
//* THIS SAMPLE JCL IS FOR ARCHIVING THE ATY COMBINED MESSAGE LOG.  
//* MESSAGE LOG.  
//* THE FOLLOWING CHARACTER STRINGS MUST BE TAILORED: 
//* #SATYLOAD - MUST BE THE NAME OF THE ATY LOAD DATASET.  
//* #LOGOUT - MUST PROVIDE ALL DATA SET INFORMATION.  
//* THE DATA SET MUST BE LRECL=1024 AND RECFM=VB.  
//* ALL OTHER PARAMETERS ARE INSTALLATION SPECIFIC.  
//* #LOGGER - MUST BE THE 1-26 BYTE Z/OS LOGSTREAM NAME.  
//* ADDITIONAL SYSIN CONTROL CARDS CAN BE FOUND IN  
//* THE ATY USERS GUIDE. (SYSIN CONTROL CARDS MUST  
//* START IN COLUMN 1 OR 2).  
//*STEP01   EXEC PGM=ATYARCH0  
//*STEPLIB   DD  DISP=SHR,DSN=##SATYLOAD  
//*LOGOUT   DD  ##LOGOUT  
//*SYSBEND   DD SYSOUT=*  
//*SYSPRINT  DD SYSOUT=*  
//*SYSIN    DD *  
//LSN=##LOGGER
```

Figure 3. Sample JCL to archive log data (ATYARCH0)

EXEC statement

Specify PGM=ATYARCH0 for the EXEC statement.

DD statements

The following DD statements define the data sets that are required by the ATYARCH0 utility.
**STEPLIB DD**
Specify the IMS Administration Tool product load library.

**LOGOUT DD**
Describes the output data set where the command and log data is written.
The data set is defined as LRECL=1024 and RECFM=VB.
The size of the data set is determined by the amount of data that is being archived.

**SYSPRINT DD**
An output data set that provides informational messages about the utility.
SYSPRINT is defined as LRECL=80 and RECFM=FB.
The output can be written to SYSOUT or a data set.

**SYSIN DD**
An input data set that contains control statements that specify archiving parameters.
SYSIN is defined as LRECL=80 and RECFM=FB.

**SYSIN control statements**
The SYSIN data set contains your description of the processing to be done by the ATYARCH0 utility.
Follow these coding conventions when you write control statements in the SYSIN data set:

- Keywords and keyword values must be coded within column 1 and column 71. Keywords must start on column 1 or 2.
- The column 72 must be blank.
- A keyword and its value must be joined with an equal sign (=) and they must be coded on the same line.
- More than one keyword can be coded on one line. Keywords must be separated by blank space.
- Keywords are not positional parameters; they can be specified in any order.
- A comment line must begin with an asterisk (*) in column 1.
- Blank lines are ignored.

The following tables list the control statements.

<table>
<thead>
<tr>
<th>Definition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSN= name</td>
<td>Required. Specify the 1- to 26-byte log stream name.</td>
</tr>
<tr>
<td>FILTER=A</td>
<td>C</td>
</tr>
<tr>
<td>A</td>
<td>Audit log records are archived.</td>
</tr>
<tr>
<td>C</td>
<td>Command log records are archived.</td>
</tr>
<tr>
<td>X</td>
<td>Both command log records and audit log records are archived. This is the default value.</td>
</tr>
</tbody>
</table>

To control the size of the archived log data set, the utility provides the following statements for controlling what information is archived:
### Table 4. ATYARCH0 SYSIN control statements to narrow the time range

<table>
<thead>
<tr>
<th>Definition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>Default. The utility starts archiving from the oldest record in the message log and continues until it encounters a log record with a different date.</td>
</tr>
<tr>
<td>HOURS=nn</td>
<td>The utility starts archiving from the oldest record in the message log and continues until ( nn ) number of hours of log records has been archived, or a log record with the current date is encountered. Valid values for ( nn ) are 1-24. When the HOURS definition is specified in conjunction with DATE, archiving continues until ( nn ) hours of records have been archived, or a log record with a date change has been encountered.</td>
</tr>
<tr>
<td>RECS=nnnnnn</td>
<td>The utility starts archiving with the oldest record in the message log, and continues until ( nnnnnn ) records have been archived, or a log record with the current date has been encountered. Valid values for ( nnnnnn ) are 1-999999. This control statement is not valid with any other control statements listed in this table.</td>
</tr>
<tr>
<td>ALL</td>
<td>The utility starts archiving with the oldest record in the message log and continues until a log record with the current date has been encountered. This control statement is not valid with any other control statements listed in this table.</td>
</tr>
<tr>
<td>MAX</td>
<td>The utility starts with the oldest record in the message log and continues until a log record with the current date and hour has been encountered. If using this option, it is recommended that the archive job (ATYARCH0) be scheduled at 15 minutes past the hour. This ensures at least 15 minutes of log data is always present in the message log. This control statement is not valid with any other control statements listed in this table.</td>
</tr>
</tbody>
</table>

### SYSIN control statement examples

The following SYSIN control statement example is for archiving both command log records and audit log records. Because ALL is specified, the utility starts archiving with the oldest record and continues until it encounters a log record with the current date.

```bash
//SYSIN DD *
LSN=Logger data set name
FILTER=X
ALL
/*
```

The following SYSIN control statement example is for archiving command log records.

- The first line is a comment line because the first column has an asterisk.
- The second line has keyword LSN starting from the second column. This is valid because keywords must start in column 1 or 2.
- The third line is a blank line. The utility skips this line.
Log stream security

The security that is required to define and use the log streams that were created for the command log can vary from installation to installation.

The following considerations apply to the security of the command log:

- The logger and storage management subsystem (SMS) address spaces need RACF ALTER access to the data sets that are allocated for the log streams that you define.
  Consult with your z/OS system programmer and RACF administrator for more information.
- The LOGSTRM class is used to protect log streams.
  Consult with your RACF administrator for more details.

Secure the IMS Administration Tool functions

IMS Administration Tool provides access controls using RACF or some other compatible security product.

IMS Administration Tool uses the MVS™ RACROUTE call to determine the access authority of a user who attempts to use the IMS commands function.

IMS Administration Tool specifies the FACILITY resource class on the RACROUTE call, as well as the entity names that are described in this section. The entity names relate to the IMS Administration Tool option that is being protected.

Tip: To control FACILITY class resources with one class, define and permit FACILITY class ATYADMIN.**.

Restriction: The sample commands in this section must be issued by the security administrator.

Restricting access to IMS Administration Tool ISPF and web user interfaces

FACILITY class ATYADMIN.ACCESS is a required class that controls the access to IMS Administration Tool ISPF and web user interfaces. This class is defined and permitted in the member #A5RACF2 in the CUSTJCL data set, which is generated by IMS Tools Setup.

If you have not yet submitted member #A5RACF2, issue RACF commands through TSO by modeling the following sample commands:

```bash
RDEFINE FACILITY CLASS ATYADMIN.ACCESS
PERMIT ATYADMIN.ACCESS CLASS(FACILITY) ID(atyuserid/groupid) ACCESS(READ)
SETROPTS RACLIST(FACILITY) REFRESH
```

Restricting access to using a ATY Group or IMS ID for issuing commands

You can use RACF to define the entity name that restricts users from using an IMS Administration Tool Group or IMS subsystem ID from being the target of any command issued through IMS Administration Tool.

Issue RACF commands through TSO by modeling the following sample commands:

```bash
RDEF FACILITY ATYADMIN.EXEGRP.[ATYGroup|IMSID] UACC(NONE) OWNER(securitygroup)
```
Setting up IMS Administration Tool in an IMS system

For each IMS system, IMS Administration Tool must be configured so you can use IMS Administration Tool functions on that IMS system. The configuration tasks are done by the JCL members that IMS Tools Setup generates. If you want to add more IMS systems after you have configured IMS Administration with IMS Tools Setup, you must complete the following tasks.

About this task

The following steps are explained in the #C6IMS1@ member in the CUSTJCL data set that IMS Tools Setup generated.

Member #C6IMS1@ covers configuration tasks for IMS Administration Tool and other products. The following procedure explains only the configuration tasks for IMS Administration Tool.

Procedure

1. Add the customized load libraries and product load libraries of IMS Administration Tool to the STEPLIB concatenation of the IMS control region and OM region JCL.

   When you initially configured IMS Administration Tool with CUSTJCL jobs, they created the following data sets. You must add these data sets to the STEPLIB concatenation.
   - CUSTLOAD, which contains IMS exit routine modules
   - SYSLOAD, which contains ATY#OPTS and ATYSTFWD modules
   - COMBLOAD and COMLOAD.PDSE (or SATYLOAD if you did not select “combine libraries” during IMS Tools Setup), which contain the product load libraries of IMS Administration Tool

2. Set up the IMS AO exit routine.

   Follow the instructions in “Implementing user exit routines” on page 24.

3. Set up the z/OS System logger (LOGR) log stream.

   a) If you want to use a different LOGR log stream for the added IMS system, define a log stream. Refer to CUSTJCL(#A7ATY5).

   b) Specify the BPE OM exit routines to the PROCLIB member of IMS OM region procedure. Refer to CUSTJCL(#A7ATY6@).

      1) Locate or specify the BPECFG=BPE configuration parameter member in the IMS OM region parameter list.

      2) Specify the following EXITMBR statement in the BPECFG member in the OM PROCLIB data set.

         EXITMBR=(BPE exit list member,OM)

   c) Specify the name of the z/OS System Logger log stream in the ATYPARMS member of the IMS OM region PROCLIB data set. Refer to CUSTPARM(ATYPARMS).

      ATYLOGR=log stream name

4. Specify a partner product user exit.

Chapter 5. Additional and optional product configuration 39
Complete either of the following steps:

- Define ATYPPUE0 as a partner product user exit to the IMS DFSDF member as follows:

  ```
  <SECTION=USER_EXITS>
  EXITDEF=(TYPE=PPUE, EXITS=(ATYPPUE0))
  
  EXITDEF(TYPE(PARTNER) EXITNAME(ATYPPUE0) LOADLIB(CUSTLOAD loadlib data set name))
  ```

- If your IMS system uses the IMS Tools Base generic partner exit routine, add the following statements to the GPRxxxx0 member in the IMS PROCLIB, where xxxx is the IMS ID.

  ```
  EXITDEF(TYPE(PARTNER) EXITNAME(ATYPPUE0) LOADLIB(CUSTLOAD loadlib data set name))
  ```

  A sample is provided in CUSTPARAM(GPRIFI80).

  For more information, see the Tools Base IMS Tools Common Services User’s Guide and Reference.

5. Prepare IMS command processor JCLs for the IMS system.

   If you want to submit IMS command batch jobs (IMS BMP batch job, IMS DL/I batch job, and z/OS standard batch job) and IMS command REDO BMP jobs, prepare JCLs for the IMS system.

   You can refer to the following batch job samples:

   - BMP region: Member ATYBMP
   - DL/I region: Member ATYDLI
   - Standard batch: Member ATYBATCH

   For REDO BMP JCL samples, refer to CUSTJCL(#A7ATY4@) or SATYSAMP(ATYBMPR).

   For more information, see Part 8, “IMS command processing,” on page 163.

6. Register the IMS system to IMS Administration Tool.

   Start the IMS Administration Tool web interface or the ISPF interface and register the IMS system to IMS Administration Tool:

   - Web interface: Setup and Admin > IMS Management > Register IMS System
   - ISPF interface: Setup and Administration > Register IMS System

   For details, see Chapter 8, “Registering IMS systems,” on page 63.

---

**Setting up a Java environment for IMS SPUFI JBP**

The IMS SPUFI function of IMS Administration Tool enables you to issue IMS SQL statements to IMS databases. SQL statements are executed in a COBOL application (IMS BMP application) or Java application (IMS JBP application). To execute SQL statements in a Java application, you must set up a Java environment.

**Before you begin**

Before you set up a Java environment for the IMS SPUFI Java application, you must ensure that the following prerequisite tasks are completed:

1. IMS system is configured so that it can start the IMS JBP region. IMS requires the following procedures to start the IMS JBP region:
   - DFSJB PROCLIB member
   - DFSJVMEV PROCLIB member
   - DFSJVMMS PROCLIB member

   These IMS procedures do not require IMS Administration Tool libraries nor path information.

2. Complete initial product customization with IMS Tools Setup. If you have not yet completed the customization, see Chapter 3, “Configuration prerequisites and checklist,” on page 17.
Note: If you have applied PTF for APAR PH19926 to IMS Tools Base before using IMS Tools Setup, all the steps described in this topic are included in the CUSTJCL data set. In this case, you do not need to complete the following steps.

About this task

The following customization steps are required only if you want to execute IMS SQL using the Java application, which runs as an IMS JBP application using type-2 IMS universal drivers. If you plan to use IMS SPUFI with the COBOL application, you do not need to perform the following customization steps.

For more information about the IMS SPUFI function, language environments, and SQL statements, see Chapter 24, “IMS SPUFI overview,” on page 155.

Procedure

IMS Administration Tool provides a collection of sample JCLs to configure a Java environment. These sample JCLs are provided in the SATYSAMP data set.

Table 5. Configuring a Java environment for IMS SPUFI JBP

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Sample member in SATYSAMP</th>
</tr>
</thead>
</table>
| 1. Decide the path name | IMS Administration Tool provides Java programs through a jar file (also referred to as ATY jar file). The ATY jar file must be placed in the USS file system (You will be instructed to do so in Step 4). Before placing the ATY jar file in the USS file system, decide the location to place the ATY jar file. The path for the ATY jar file is: 

-PathPrefix-usr/lpp/imstools/admintool/lib

-PathPrefix: Path name must be an absolute path name, begin and end with a slash (/), and must not include a plus sign (+) nor a blank. The maximum length is 900 characters.

usr/lpp/imstools/admintool/lib: Do not change this path. Use as is. | None. |
| 2. (optional) Allocate and mount a new zFS file system | If you want to create a new file system to place the ATY jar file, create and mount a new zFS file system. If you use an existing file system, skip this step. 

To create and mount a new zFS file system, modify the ATYJZFS JCL for your environment by following the instructions in the ATYJZFS JCL. For the file path, specify the -PathPrefix- that you have decided in Step 1. 

Submit the job and verify that it completes with condition code of 0. 

Note: The new file system will not be mounted at the next IPL time. Consider adding the file system to the BPXPRMxx member in the z/OS system parmlib data sets (SYS1.PARMLIB or the concatenated data sets) so that the file system is automatically mounted at IPL time. | ATYJZFS |
| 3. Create a USS path | To create a USS path for the ATY jar file, modify the ATYJMKD JCL for your environment by following the instructions in the ATYJMKD JCL. For the file path, specify the -PathPrefix- that you have decided in Step 1. 

Submit the job and verify that it completes with condition code of 0. | ATYJMKD |
Table 5. Configuring a Java environment for IMS SPUFI JBP (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Sample member in SATYSAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Copy the jar file to the appropriate USS path</td>
<td>To copy the ATY jar file from the SMP/E target library to the USS file system using the USS path, modify the ATYJCOPY JCL for your environment by following the instructions in the ATYJCOPY JCL. Submit the job and verify that it completes with condition code of 0.</td>
<td>ATYJCOPY</td>
</tr>
</tbody>
</table>
| 5. Register variables to the IMS Tools Knowledge Base repository | To run the IMS Administration Tool java application as JBP, you must register variables to the IMS Tools Knowledge Base repository. ATYJPREF job registers the following keyword variables to the IMS Tools Knowledge Base repository:  
  • Registers “JBP” for variable SQLLANG.  
  • Registers the path prefix for the ATY jar file (-PathPrefix-) for variable ATYJPRE1.  
  • Registers the path prefix for the ATY jar file (-PathPrefix-) for variable ATYJPRE2, 3, ... 9, A, ... G. These variables are registered only when the path prefix is more than 65 characters. For example, if the path prefix is 150 characters, the first 65 characters are registered to ATYJPRE1, 66 to 130 characters are registered to ATYJPRE2, 131 to 150 characters are registered to ATYJPRE3.  
Modify the ATYJPREF JCL for your environment by following the instructions in the ATYJPREF JCL. Submit the job and verify that it completes with condition code of 0. | ATYJPREF |

Migration from IBM IMS Command Control Facility for z/OS

You can use batch JCLs and application programs of IMS Command Control Facility (CCF) with IMS Administration Tool after you complete the migration task.

During the migration task, you define alias names of IMS Command Control Facility modules to IMS Administration Tool. By defining alias names, you can run batch jobs and application programs of IMS Command Control Facility using the load modules of IMS Administration Tool.

To use IMS Command Control Facility modules with IMS Administration Tool, you must modify the STEPLIB concatenation to include the load module libraries of IMS Administration Tool instead of load module libraries of IMS Command Control Facility.

In addition to defining alias names, you must also set up VSAM data sets and the IMS system. To use batch JCLs and application programs of IMS Command Control Facility with IMS Administration Tool, complete the steps in “Migrating from IMS Command Control Facility” on page 44.

Compatibility between IMS Administration Tool and IMS Command Control Facility

This topic describes compatibility between IMS Administration Tool and IMS Command Control Facility.

IMS Command Control Facility resources that can be used with IMS Administration Tool

After you complete the migration steps in “Migrating from IMS Command Control Facility” on page 44, you can use the following resources of IMS Command Control Facility with IMS Administration Tool.
CCF callable API

- The STEPLIB concatenation of the batch JCL of the CCF callable API must be changed to include the
  load module libraries of IMS Administration Tool instead of load module libraries of IMS Command
  Control Facility.
- Application programs that call the CCF callable API (CCFCAP10) can be used without modification or
  re-compilation. When you migrate from IMS Command Control Facility to IMS Administration Tool,
  you define alias name CCFCAP10 to module ATYCAPI0. This step makes module ATYCAPI0
  compatible with module CCFCAP10.
- /CCFDEADQ command can be used.

Batch JCLs

- The STEPLIB concatenation of the JCL must be changed to include the load module libraries of IMS
  Administration Tool instead of load module libraries of IMS Command Control Facility.
- Parameters and resource names used in of IMS Command Control Facility batch JCLs (IMS BMP
  batch JCL, IMS DL/I batch JCL, and z/OS standard batch JCL) require no modification.
  - PGM= and PARM= in the EXEC statement
  - CCFSYSIN, CCFLIST, CCFOPTS, and CCFJOPRT DD names
  - CCFDDTBL module, which is a ddname table that defines input and output DD names
  - CCFOPTS ddname input statements

REDO BMP batch JCLs

- The STEPLIB concatenation of the JCL must be changed to include the load module libraries of IMS
  Administration Tool instead of load module libraries of IMS Command Control Facility.
- Parameters and resource names used in IMS Command Control Facility REDO batch JCLs require no
  modification.
  - PGM= and PARM= in the EXEC statement
  - CCFPRE, CCFPRINT, and CCFPOST DD names

CCF commands

- /CCFMOD,/CCFWAIT, and /CCFDEADQ commands
- /LOG CCFREFRESH | CCFCONNECT | CCFDISCONN commands

Resources of IMS Administration Tool start with "ATY". However, to keep the compatibility between IMS
Command Control Facility and IMS Administration Tool, IMS Administration Tool also supports resources
that start with "CCF" (only those introduced in this topic). If both resources are supplied, IMS
Administration Tool uses the resource that starts with ATY and ignores the resource that starts with CCF.
For example, if both CTOPT and ATYOPT are supplied, IMS Administration Tool uses ATYOPTS.
For a list of resource names of IMS Administration Tool and IMS Command Control Facility, see “IMS
Administration Tool and IMS Command Control Facility resource names” on page 47.

IMS Command Control Facility resources that cannot be used with IMS Administration Tool

The following resources of IMS Command Control Facility are not supported by IMS Administration Tool.
These resources must be redefined during migration. Migration steps in “Migrating from IMS Command
Control Facility” on page 44 cover redefinition of these resources.

- IMS exit routines and definitions in IMS PROCLIB
- CCFPARMS
- VSAM option data set
- Command store/forward VSAM data set
Log record compatibility considerations

Log records that IMS Command Control Facility generates are not compatible with log records that IMS Administration Tool generates.

You can continue to use the same log stream that you have been using with IMS Command Control Facility with IMS Administration Tool. However, because the format of log records is different between IMS Administration Tool and IMS Command Control Facility, IMS Administration Tool does not support the following operations on the log records generated by IMS Command Control Facility:

- You cannot view command log records generated by IMS Command Control Facility.
- Log records of IMS Command Control Facility cannot be archived using the Command and Audit Log Archive (ATYARCH0) utility of IMS Administration Tool. If you want to archive log records of IMS Command Control Facility, you must submit the archive log utility (CCFARCH0) using the IMS Command Control Facility product load library before you start the migration task.

After you complete the migration task described in “Migrating from IMS Command Control Facility” on page 44, the Command and Audit Log Archive (ATYARCH0) utility of IMS Administration Tool has the alias name of CCFARCH0. You can submit the archive log utility (CCFARCH0) to archive log records generated by IMS Administration Tool. In order to do so, you must modify the STEPLIB concatenation to include the load module libraries of IMS Administration Tool instead of the load module libraries of IMS Command Control Facility.

IMS Command Control Facility functions that are not supported by IMS Administration Tool

IMS Administration Tool does not support the following functions of IMS Command Control Facility:

- The Command processor list
- APPC/MVS and APPC/IMS

The following global options, which are for APPC/MVS and APPC/IMS, are not supported by IMS Administration Tool:

- APPC/STC Tpname
- Use DB pre-scan for remote STC
- Use GENERAL option for syntax error

Global option "Add NOFEOV to ISPF command" is not supported with IMS Administration Tool. Use "Add NOFEOV to /DBD and /DBR" option instead.

Migrating from IMS Command Control Facility

Complete the migration steps summarized in the following table. These steps must be completed to use batch JCLs of IMS Command Control Facility with IMS Administration Tool.

About this task

Before migrating from IMS Command Control Facility, ensure that you have completed initial product customization with IMS Tools Setup. If you have not yet completed the customization, see Chapter 3, “Configuration prerequisites and checklist,” on page 17.

After you complete these migration steps, it is recommended that you keep all the IMS Command Control Facility resources. You might need these resources in case you want to fallback to IMS Command Control Facility.
<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Sample member in SATYSAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Run the IMS Command Control Facility archive utility</td>
<td>The archive utility of IMS Administration Tool cannot archive the log records generated by IMS Command Control Facility. If you want to archive the log records of IMS Command Control Facility, submit the IMS Command Control Facility archive utility.</td>
<td></td>
</tr>
<tr>
<td>2. Remove IMS Command Control Facility resources</td>
<td>If the load module members of IMS Command Control Facility (CCF prefix) and IMS Administration Tool (ATY prefix) reside in the same data set, move the IMS Command Control Facility load module members to a different data set.</td>
<td></td>
</tr>
<tr>
<td>3. Define alias names</td>
<td><strong>Note:</strong> If you have applied PTF UI66761 of APAR PH16255 to IMS Tools Base before using IMS Tools Setup, the alias definition step is included in the member #A7ATY8 of CUSTJCL. In this case, the alias names are already defined and you can skip this step. Define alias names to the load modules of IMS Administration Tool. The alias names start with &quot;CCF.&quot;.</td>
<td>ATYALSC</td>
</tr>
</tbody>
</table>
Table 6. Migration tasks to migrate from IMS Command Control Facility to IMS Administration Tool (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Sample member in SATYSAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Copy VSAM option data set</td>
<td>Note: If you have applied PTF UI66761 of APAR PH16255 to IMS Tools Base before using IMS Tools Setup, the copy step is included in the member #A7ATY8 of CUSTJCL. In this case, the VSAM option data set is already copied so you can skip this step. The CCF VSAM option data set and CCF#OPTS cannot be used with IMS Administration Tool. Copy the following VSAM option records from IMS Command Control Facility to IMS Administration Tool: • Global options • Job options • Message disposition table</td>
<td>ATYCPYV</td>
</tr>
</tbody>
</table>

Notes:
- Member ATYCPYV in the SATYSAMP data set is JCL to copy VSAM option records by using IDCAMS. The global option records and job options records are copied with the replace option in the first job step, and the message disposition table records are copied without the replace option in the second job step. You can enable or disable the replace option.
- Some global options are not supported by IMS Administration Tool. See “IMS Command Control Facility functions that are not supported by IMS Administration Tool” on page 44.
- IMS system and IMS command group records are not copied by the ATYCPYV job. You must register IMS systems and IMS command groups using the web interface or the ISPF interface of IMS Administration Tool. This is because some information that is required by IMS Administration Tool user interface is defined during initial registration.
- If the message disposition table record is not defined in IMS Command Control Facility, you will receive return code 12 in the second job step.

5. Modify CCF batch JCLs | In each CCF batch JCL, you must modify the STEPLIB DD statement. Specify the following IMS Administration Tool customized and product load library data sets. These load library data sets are created by IMS Tools Setup jobs: • SYSLOAD, which contains ATY#OPTS and ATYSTFWD modules Locate the data set that is defined to the SYSLOAD variable of IMS Administration Tool and also in CUSTLOAD (if a different name is used in SYSLOAD). • COMBLOAD and COMBLOAD.PDSE (or SATYLOAD if you did not select "Combine libraries" during IMS Tools Setup.) |
Table 6. Migration tasks to migrate from IMS Command Control Facility to IMS Administration Tool (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Sample member in SATYSAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Modify the IMS system</td>
<td>The exit routines and the PROCLIB members of IMS Command Control Facility cannot be used with IMS Administration Tool. Remove all IMS Command Control Facility resources (load libraries, PROCLIB members) from the IMS control region, OM region, dependent regions, and PROCLIB. Then set up IMS Administration Tool in the IMS systems. For details, see “Setting up IMS Administration Tool in an IMS system” on page 39.</td>
<td></td>
</tr>
</tbody>
</table>

**IMS Administration Tool and IMS Command Control Facility resource names**

IMS Administration Tool supports IMS Command Control Facility resources that you have been using with IMS Command Control Facility.

**Note:** To enable IMS Command Control Facility resources with IMS Administration Tool, you must complete the migration steps described in “Migrating from IMS Command Control Facility” on page 44.

The following table provides a mapping of IMS Command Control Facility resources and IMS Administration Tool resources used by the features that both products support.

At run time, IMS Administration Tool generally searches for IMS Administration Tool resources (starts with “ATY”) first. When it cannot find the resource, it looks for IMS Command Control Facility resources (starts with “CCF”).

<table>
<thead>
<tr>
<th>IMS Command Control Facility resource</th>
<th>IMS Administration Tool resource</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCFCMD00</td>
<td>ATYCMD00</td>
<td>Program name used in IMS command batch jobs</td>
</tr>
<tr>
<td>CCFJOPRT</td>
<td>ATYJOPRT</td>
<td>DD name used in IMS command batch jobs</td>
</tr>
<tr>
<td>CFOPRT</td>
<td>ATYOPTS</td>
<td>DD name to override IMS command job options and global options in IMS command batch jobs</td>
</tr>
<tr>
<td>CCFODSET</td>
<td>ATYODSET</td>
<td>DD name for the VSAM options data set used in IMS command batch jobs</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> If both ATYODSET and CCFODSET DD statements are not specified, IMS Administration Tool dynamically allocates (DYNALLOC) the data set that is defined in the ATY#OPTS customized module.</td>
</tr>
<tr>
<td>CCFDDTBL</td>
<td>ATYDDTBL</td>
<td>The load module name for the ddname table used in IMS command batch jobs</td>
</tr>
<tr>
<td>CCFSYSIN</td>
<td>ATYSYSIN</td>
<td>DD name used in IMS command batch jobs (z/OS standard batch, IMS DL/I batch, and IMS BMP batch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> IMS Administration Tool does not actually use DD statements CCFSYSIN, ATYSYSIN, CCFLIST, and ATYLIST. It uses the DD statements that are overridden at run time. For more information, see “Runtime options for IMS command batch jobs” on page 187.</td>
</tr>
<tr>
<td>IMS Command Control Facility resource</td>
<td>IMS Administration Tool resource</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>CCFLIST</td>
<td>ATYLIST</td>
<td>DD name used in IMS command batch jobs</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> IMS Administration Tool does not actually use DD statements CCFSYSIN, ATYSYSIN, CCFLIST, and ATYLIST. It uses the DD statements that are overridden at run time. For more information, see “Runtime options for IMS command batch jobs” on page 187.</td>
</tr>
<tr>
<td>CCFREDO0</td>
<td>ATYREDO0</td>
<td>Program name used in REDO batch jobs</td>
</tr>
<tr>
<td>CCFPRE</td>
<td>ATYPRE</td>
<td>DD name used in REDO batch jobs</td>
</tr>
<tr>
<td>CCFPRINT</td>
<td>ATYPRINT</td>
<td>DD name used in REDO batch jobs</td>
</tr>
<tr>
<td>CCFPOST</td>
<td>ATYPOST</td>
<td>DD name used in REDO batch jobs</td>
</tr>
<tr>
<td>CCFSTFWD</td>
<td>ATYSTFWD</td>
<td>DD name for the store/forward VSAM data set used in REDO batch jobs</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> If both ATYSTFWD and CCFSTFWD DD statements are not specified, IMS Administration Tool dynamically allocates (DYNALLOC) the data set that is defined in the ATYSTFWD customized module.</td>
</tr>
<tr>
<td>/LOG</td>
<td>/LOG</td>
<td>Commands provided by IMS Administration Tool</td>
</tr>
<tr>
<td>[CCFREFRESH</td>
<td>CCFCONNECT</td>
<td>CCFDISCONN]</td>
</tr>
<tr>
<td>/CCFWAIT</td>
<td>/ATYWAIT</td>
<td>Command provided by IMS Administration Tool</td>
</tr>
<tr>
<td>/CCFMOD</td>
<td>/ATYMOD</td>
<td>Command provided by IMS Administration Tool</td>
</tr>
<tr>
<td>/CCFDEADQ</td>
<td>/ATYDEADQ</td>
<td>Command provided by IMS Administration Tool</td>
</tr>
<tr>
<td>CCFCAPI0</td>
<td>ATYCAPI0</td>
<td>Program name for the IMS command callable API</td>
</tr>
<tr>
<td>CCFARCH0</td>
<td>ATYARCH0</td>
<td>Program name for the archive utility. In IMS Administration Tool, the utility name is Command and Audit Log Archive (ATYARCH0) utility.</td>
</tr>
</tbody>
</table>
Part 3. Setup and Administration

IBM IMS Administration Tool for z/OS (also referred to as IMS Administration Tool) is an IMS Tools product that provides a comprehensive set of functions and features to assist IMS database administrators with managing IMS environments.

The IMS Administration Tool setup and administration options allow you to specify and validate required product configuration and IMS environmental information.

The IMS Tools Knowledge Base repository is used to maintain IMS Administration Tool configuration and IMS environment information. The repository is created and initialized during initial IBM IMS Tools Base installation.

ISPF and Management Console user interfaces, that are used by IMS Administration Tool, access the same repository. Therefore, configuration data and IMS environment information is consistent across both user interfaces.

The topics in this section provide you with information about the setup and administration options for IMS Administration Tool.

Topics:

- Chapter 6, “Global settings,” on page 51
- Chapter 7, “Updating the product registry,” on page 53
- Chapter 8, “Registering IMS systems,” on page 63
- Chapter 9, “Managing groups,” on page 69
- Chapter 10, “Viewing the audit log,” on page 71
- Chapter 11, “Configuring message disposition,” on page 75
Chapter 6. Global settings

IMS Administration Tool requires two global settings to be defined.

**Global Settings reference**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITKB Repository</td>
<td>The name of the IMS Tools Knowledge Base repository server for the XCF Group that operates in the same environment as IMS Administration Tool.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> IMS Tools Knowledge Base is a component of IBM IMS Tools Base.</td>
</tr>
<tr>
<td></td>
<td>IMS Administration Tool uses the IMS Tools Knowledge Base repository to store enhanced product registry information and product processing output such as reports, command logs, and audit logs.</td>
</tr>
<tr>
<td></td>
<td>This value is provided during product startup, and is not configurable from this field.</td>
</tr>
<tr>
<td>Audit Log</td>
<td>Enter the name of the single global predefined IMS Administration Tool audit log stream that captures processing information for the entire IMS Administration Tool environment.</td>
</tr>
<tr>
<td></td>
<td>• The audit log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set.</td>
</tr>
<tr>
<td></td>
<td>System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.</td>
</tr>
<tr>
<td></td>
<td>Refer to the appropriate z/OS documentation for information and syntax.</td>
</tr>
<tr>
<td></td>
<td>• Only one audit log serves the entire IMS Administration Tool environment.</td>
</tr>
<tr>
<td></td>
<td>• The audit log is optional.</td>
</tr>
<tr>
<td></td>
<td>You must define and specify the audit log stream to enable logging.</td>
</tr>
</tbody>
</table>

**Using the audit log stream to log IMS commands**

• By default, IMS commands and responses are not logged to the audit log, unless the audit log is specified as an IMS command log stream.

• Command log streams for IMS command logging are configured when you register individual IMS subsystems:

  Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream

• You can name a command log stream to be the same as the global IMS Administration Tool audit log stream (recommended), or alternatively, you can specify a separate command log stream for each individual IMS subsystem.

• If the global audit log is also specified as a command log stream for an IMS subsystem, command logging is activated and the audit log additionally captures IMS command records for the associated IMS subsystem.
Chapter 7. Updating the product registry

IMS Tools products that participate in the IMS Administration Tool environment must be registered to the IMS Tools Knowledge Base repository and must define to IMS Administration Tool what functions they can perform.

Topics:
- “Product registration overview” on page 53
- “Product registration process flow” on page 54
- “Product functions, templates, and variables” on page 55
- “Rules for DDNAME variables” on page 56
- “Scope designations for products” on page 56
- “Scope designations for templates” on page 57
- “Scope designations for variables” on page 58
- “Product Management reference” on page 59
- “Function and Template Management reference” on page 60
- “Variable Management reference” on page 61

Product registration overview

IMS Tools products that participate in the IMS environment with IMS Administration Tool are required to register information to the central IMS Tools Knowledge Base repository.

This product information is used by the IMS Administration Tool "Run IMS utilities" feature to help automate and support the JCL generation process.

Product registration includes:
- Register to the IMS Tools Knowledge Base repository for general data storage.
- Register to the IMS Tools Knowledge Base report service for storage of generated product reports.
- Register to the IMS Tools Knowledge Base product registry:
  - Product version and release
  - Product library names and locations
  - Initial assignment of product "scope=GLOBAL"
- Register specific functions provided by the IMS Tool products.
- Register templates for each function that represent the JCL code used to perform that function.
  Initial assignment of template "scope=GLOBAL".
- Register a list of variable expressions used in the template code that are later populated with values appropriate to the IMS environment.
  Initial assignment of variable "scope=GLOBAL".
- Enhanced initial setup and customization of IMS Administration Tool through IMS Tools Setup.
The following diagram shows the IMS Administration Tool product registration process flow.

**Figure 4. Product registration process flow**
Product functions, templates, and variables

To support the Run IMS Utilities feature of IMS Administration Tool, IMS Tools product *functions* are registered and made available to the JCL generation process.

The code to run a specific function is provided in the form of a *template*. The template is JCL code and includes *variable* expressions that are populated with appropriate values before and during the final build process of an actual job JCL.

**Functions**
Functions are the specific capabilities provided by IMS Tools products.

A sequence of specific functions can be assembled together to define a simple or complex database maintenance task.

Example functions:
- Image copy with pointer check
- Build indexes for full function databases
- Pointer check full function databases
- Unload a full function database
- Reload a full function database
- Prefix resolution and update

**Templates**
A template is the JCL code containing variables and commands that is used to run a function. Templates are created during the registration of the product functions.

The Run IMS Utilities *utility profile* defines a primary database maintenance task by specifying the required functions in the correct sequence.

The Run IMS Utilities *job profile* accesses a utility profile and combines the function templates specified by that utility profile into a single master JCL job. The job profile then applies this JCL job to an IMS environment that is defined in an *object profile*.

**Variables**
Variables are place-holder expressions in template JCL code that require the substitution of specific values when the single master JCL is generated.

There are two types of variables used:

- **DDNAME** (DDNAME parameter and data set names)
  
  Examples: product load library locations, IMS RESLIB, RECON data set names

- **Keywords**
  
  Examples: high level qualifiers, IMSID, RECONID, LPAR, USERID, ITKBSRVR

Additionally, some variables and values are dynamically provided during the final JCL build process. Sources for these dynamic variables include:

- **Environment** (*z/OS* system information)
  
  Examples: SORTLIB, SYSMAC, USERID, UNIT

- **Registry** (IMS Tools product information)
  
  Examples: library names (**MENU, *PENU, *SENU, *LOAD**)

- **Discovery** (IMS system information)
  
  Examples: DBDLIB, PROCLIB, RECON1
Rules for DDNAME variables

Values for DDNAME variables can include data set names and the DDNAME parameter itself. Because JCL code often contains concatenated data set names, all DDNAME variables must be assigned a rule that specifies how the variable values are substituted in the code during a final JCL job build:

- **Before**
  The value for this variable is applied at the beginning of any existing DDNAME concatenation.

- **Replace**
  The value for this variable replaces any existing value or values.

- **After**
  The value for this variable is applied at the end of any existing DDNAME concatenation.

Example:
- DDNAME variable name = DD1, with a data set name value of A.B.C
- Existing JCL code, which includes a DDNAME of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=FIRST.DSN,DISP=SHR
//        DD DSN=SECOND.DSN,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

- Rule=B (Before) concatenates the variable value **before** any existing allocations of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=A.B.C,DISP=SHR
//        DD DSN=FIRST.DSN,DISP=SHR
//        DD DSN=SECOND.DSN,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

- Rule=R (Replace) **replaces** any existing allocations of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=A.B.C,DISP=SHR
//        DD DSN=THIRD.DSN,DISP=SHR
```

- Rule=A (After) concatenates the variable value **after** any existing allocations of DD1:

```
//STEP1  EXEC PGM=IEFBR14
//DD1     DD DSN=FIRST.DSN,DISP=SHR
//        DD DSN=SECOND.DSN,DISP=SHR
//        DD DSN=A.B.C,DISP=SHR
//DD2     DD DSN=THIRD.DSN,DISP=SHR
```

Scope designations for products

The registration for each IMS Tools product includes a categorization called "scope". The primary purpose of product scope designations is to allow you to distinguish products according to different product version/release levels and maintenance levels. Product scope designation allows you to apply different versions of the same product to specific regions of your environment.

**GLOBAL**

The initial default scope designation for all products registered to the IMS Administration Tool environment.

Interpretation: A scope=GLOBAL product is available for use to the entire environment, when:

- There is no duplicate of this product with a scope=IMSID representing the IMSID of a specific IMS environment, or
• There is no duplicate of this product with a scope=SYSTEM.

Purpose/usage: A product with scope=GLOBAL means the production SMP/E libraries for the product have not been modified or updated since initial installation. A scope=GLOBAL product represents the production product libraries with no maintenance applied since installation.

SYSTEM
A default scope=GLOBAL product that has been customized (modeled) using the product management interface.

Interpretation: A scope=SYSTEM product is available for use to the entire environment, when:
• There is no duplicate of this product with a scope=IMSID representing the IMSID of a specific IMS environment.

Purpose/usage: A product with scope=SYSTEM means the production SMP/E libraries for the product have been modified or updated since initial installation. A scope=SYSTEM product represents the production product libraries with maintenance applied since installation.

IMSID
A default scope=GLOBAL or SYSTEM product that has been customized (modeled or updated) using the product management interface.

Interpretation: A product with scope=IMSID is available for use only for the specified IMS environment (IMSID).

Purpose/usage: A product with scope=IMSID means the production SMP/E libraries for the product have been modified or updated since initial installation. The modification or update is made to be appropriate for use in a specific IMS environment (IMSID).

Best practice scenario
1. When an IMS Tools product is registered through IMS Tools Setup, original SMP/E libraries (registered for a test IMS environment as scope=IMSID) are maintained separately from copied libraries (registered as scope=GLOBAL) that are used for the production environment
2. Maintenance updates (APAR/PTF) are applied to the original SMP/E libraries (scope=IMSID) and tested on the test IMS environment.
3. When testing has been validated, the maintenance update is applied to the copied libraries used in production. The scope for the production libraries is changed to scope=SYSTEM.

Scope designations for templates
The configuration for each function template includes a categorization called "scope".

The primary purpose of scope designations for templates is to allow the JCL code for functions to be modified to meet the specific requirements of the environment. The Run IMS Utilities job profile assembles templates at the appropriate scope levels to generate the correct JCL for the target databases and environment.

GLOBAL
The initial default scope designation when templates are created for all product functions that are registered to the IMS Administration Tool environment.

Interpretation: The scope=GLOBAL template is applicable to all job profiles, when:
• There is no equivalent template with a scope=IMSID for the IMSID that the job profile belongs to, or
• There is no equivalent template with a scope=SYSTEM.

Purpose/usage: The scope=GLOBAL template represents the JCL code to run the function as originally provided with no modifications.

SYSTEM
A scope=GLOBAL template that has been modified (modeled) using the function and template management interface.
Interpretation: The scope=SYSTEM template is applicable to all job profiles, when:

• There is no equivalent template with a scope=IMSID for the IMSID that the job profile belongs to.

Purpose/usage: The scope=SYSTEM template represents JCL code that has been modified to run a customized version of the function for the particular environment or environments.

**IMSID**

A scope=SYSTEM or GLOBAL template that has been modified (modeled or updated) using the function and template management interface.

Interpretation: The scope=IMSID template is applicable only to those job profiles belonging to the specified IMS environment (IMSID).

Purpose/usage: The scope=IMSID template represents the JCL code that has been modified to run a customized version of the function for the specified IMS environment (IMSID).

**PROFILE**

A scope=GLOBAL or SYSTEM or IMSID template that has been modified (modeled or updated) using the manage utility profile interface.

Interpretation: The scope=PROFILE template is created within a specific utility profile itself, and is applicable only to that utility profile and the IMSID associated with the utility profile.

Purpose: The scope=PROFILE template represents the JCL code that has been modified to run a customized version of the function that is appropriate for use only when the job profile uses that utility profile.

---

**Scope designations for variables**

The configuration for variables used in templates includes a categorization called "scope".

Variable expressions often occur in the template JCL code as place-holders for actual values. Appropriate values are substituted for the variable expressions when the job profile builds the final JCL.

The primary purpose of scope designations for variables is to allow you to modify the JCL code for functions to meet the specific requirements of the environment. The Run IMS Utilities job profile substitutes values for variable expressions at the appropriate scope levels to generate the correct JCL for the target databases and environment.

**GLOBAL**

The initial default scope designation for all product variables and values when they are initially registered to the IMS Administration Tool environment.

Interpretation: The scope=GLOBAL variable and value is applicable to all job profiles during variable substitution, when:

• There is no equivalent variable and value with a scope=PROFILE for the specific job profile, or
• There is no equivalent variable and value with a scope=IMSID for the IMSID that the job profile belongs to, or
• There is no equivalent variable and value with a scope=SYSTEM.

Purpose/usage: The scope=GLOBAL variable uses the value provided at initial product registration.

**SYSTEM**

A scope=GLOBAL variable and value that has been modified (modeled) using the variable management interface.

Interpretation: The scope=SYSTEM variable and value is applicable to all job profiles during variable substitution, when:

• There is no equivalent variable and value with a scope=PROFILE for the specific job profile, or
• There is no equivalent variable and value with a scope=IMSID for the IMSID that the job profile belongs to.
Purpose/usage: The scope=SYSTEM variable uses a customized value (modified from the scope=GLOBAL value).

**IMSID**
A scope=GLOBAL or SYSTEM variable and value that has been modified (modeled or updated) using the variable management interface.

Interpretation: The scope=IMSID variable and value is applicable during variable substitution only to job profiles created for the specified IMS environment (IMSID).

Purpose: The scope=IMSID variable uses a customized value that is appropriate for use only by a job profile created for the specified IMS environment (IMSID).

**PROFILE**
A scope=GLOBAL or SYSTEM or IMSID variable and value that has been modified (modeled or updated) using the manage job profile interface.

Interpretation: The scope=PROFILE variable and value is created within a specific job profile itself, and is applicable during variable substitution only to that job profile.

Purpose: The scope=PROFILE variable uses a customized value that is appropriate for use only by the job profile where the value was defined.

**Dynamically generated variables**
Some variables and values are dynamically provided during the final JCL build process. Sources for these dynamic variables include:

**ENVIRONMENT**
z/OS system information
Examples: SORTLIB, SYSMAC, USERID, UNIT

**REGISTRY**
IMS Tools product information

**DISCOVERED**
IMS system information
Examples: DBDLIB, PROCLIB, RECON1

### Product Management reference
The Product Management interface displays the status of all IMS Tools products that have registered to participate in the IMS Administration Tool environment.

Product scope designations can be used to identify and control different product version/release levels and maintenance levels.

<table>
<thead>
<tr>
<th><strong>Table 8. Product Management</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option</strong></td>
</tr>
<tr>
<td>D (delete)</td>
</tr>
</tbody>
</table>
**Table 8. Product Management (continued)**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| M (model) | Using the selected product as a model and create a new product registry entry that contains a different scope level and/or library designations. Suffixes for SMP/E library members:  
  LOAD  
  Product load library  
  PENU  
  ISPF panel library for the product  
  MENU  
  ISPF message library for the product  
  SLIB  
  ISPF skeleton library |
| U (update) | Update product library designations for SYSTEM and IMSID scope level products. Products with a GLOBAL scope level cannot be updated or deleted. Products with a GLOBAL scope level can only be viewed or modeled. |
| V (view) | Display product information. No modifications to the product information can be made in this view. |

**Function and Template Management reference**

The Function and Template Management interface displays the list of IMS Tools product functions that have been registered in the IMS Administration Tool environment.

Each function has a template associated with it. The template is the JCL code that runs that function. Prior to accessing the function list, you must indicate the range of scope level to display:

- By default, all GLOBAL scope level functions display.
- Scope=SYSTEM results in the display of all functions with GLOBAL or SYSTEM scope level.
- Scope=IMSID results in the display of all functions with GLOBAL or SYSTEM or the selected IMSID scope level.

**Table 9. Function and Template Management**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (create)</td>
<td>Create a new function and template.</td>
</tr>
<tr>
<td>D (delete)</td>
<td>Delete a SYSTEM or IMSID scope level function. Functions and templates with a GLOBAL scope level cannot be updated or deleted. Functions and templates with a GLOBAL scope level can only be viewed or modeled.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Using the selected existing function and template as a model, create a new function that contains a new name, a new scope level, and modified template JCL code.</td>
</tr>
</tbody>
</table>
Table 9. Function and Template Management (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U (update)</td>
<td>Update the template JCL code for SYSTEM and IMSID scope level functions. Functions and templates with a GLOBAL scope level cannot be updated or deleted. Functions and templates with a GLOBAL scope level can only be viewed or modeled.</td>
</tr>
<tr>
<td>V (view)</td>
<td>Display the template JCL code for the selected function. No modifications to the template code can be made in this view.</td>
</tr>
</tbody>
</table>

Variable Management reference

The Variable Management interface displays the list of IMS Tools product variables and values that have been registered in the IMS Administration Tool environment.

Variables are organized into two categories:

- **DDNAME** (DDNAME parameter and data set names)
- **Keyword**

Prior to the variable list display, you must indicate the required scope level to include:

- By default, all GLOBAL scope level variables display.
- **Scope=SYSTEM** results in the display of all variables with GLOBAL or SYSTEM scope level.
- **Scope=IMSID** results in the display of all variables with GLOBAL or SYSTEM or the selected IMSID scope level.

Table 10. Variable Management

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDname variables</td>
<td>Add, override, delete DDNAME type variable. DDNAME variables represent data set names such as product load library locations, IMS RESLIB, and RECON data sets.</td>
</tr>
<tr>
<td>Keyword variables</td>
<td>Add, override, delete keyword type variable. Keyword variables represent single value information such as high level qualifiers and IMSIDs.</td>
</tr>
<tr>
<td>C (create)</td>
<td>Create a new variable and value that can be used in function templates.</td>
</tr>
</tbody>
</table>

- New variable name
- **Type** (preset for either DDNAME or KEYWORD)
- **Scope level** (SYSTEM or IMSID)
- **Rule** (for placement of variable in an existing concatenation) (DDNAME variables only)
  - Before (B)
  - Replace (R)
  - After (A)
- Variable value or values
<table>
<thead>
<tr>
<th><strong>Option</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>D (delete)</td>
<td>Delete a SYSTEM or IMSID scope level variable. Variables with a GLOBAL scope level cannot be updated or deleted. Variables with a GLOBAL scope level can only be viewed or modeled.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Using the selected existing variable as a model, create a new variable with a new name, a new type, a new scope level, and new value.</td>
</tr>
<tr>
<td>U (update)</td>
<td>Update the attributes for SYSTEM and IMSID scope level variables. Variables with a GLOBAL scope level cannot be updated or deleted. Variables with a GLOBAL scope level can only be viewed or modeled.</td>
</tr>
<tr>
<td>V (view)</td>
<td>Display the attributes for the selected variable. No modifications to the variable and its value can be made in this view.</td>
</tr>
</tbody>
</table>
Chapter 8. Registering IMS systems

You must initially register all IMS subsystems that participate in the IMS Administration Tool environment.

When registering IMS subsystems, you must provide certain IMS system parameters so that IMS Administration Tool can identify ("discover") IMS resources for that system as needed.

Topics:
- “Technical notes for registering IMS systems” on page 63
- “The role of dynamic discovery” on page 63
- “Register IMS Systems management reference” on page 64
- “Register an IMS Subsystem reference” on page 65

Technical notes for registering IMS systems

The following technical notes apply for registering IMS systems to the IMS Administration Tool environment.

APF authorization required for IMS instances on different LPARs

When you use IMS Administration Tool to administer multiple IMS systems, you must APF-authorize all data sets in the STEPLIBs for the IMS Control Region, DLISAS, and DBRC regions of any IMS instance that operates on a different LPAR than the LPAR where IMS Administration Tool is located.

Perform this task on the LPAR where IMS Administration Tool is running.

The role of dynamic discovery

IMS Administration Tool is designed to operate as a centralized task management control center for an IMS and IMS Tools environment.

The single user interface provides access to functions that can simplify complex tasks associated with managing IMS databases, applications, and IMS systems.

When registering IMS subsystems, certain IMS system parameters are provided so that IMS Administration Tool can identify ("discover") IMS resources for that system as needed.

IMS Administration Tool dynamic discovery supports the product functions by finding current information and settings about an IMS system. The specific information required varies based on which IMS Administration Tool function is being performed.

The dynamic discovery process is powerful and extensive in order to obtain the information required for any function run by IMS Administration Tool. Some examples of dynamically discovered information include:

- Whether the IMS catalog is enabled or not.
- Whether the IMS system is configured for IMS-managed ACBs.
- The DBDLIB, PSBLIB, ACBLIB, and RECON1 data sets.
- The databases defined to the IMS environment.
- The characteristics, data set names, and other information about the defined databases.

Dynamic discovery assumes the major responsibility of searching for and acquiring the IMS system information required by an IMS Administration Tool function, at the time the function runs. Two ease-of-use goals are achieved because of the discovery process:

- Initial IMS subsystem registration to the IMS Administration Tool environment is minimal.
User knowledge and maintenance of system information (as needed by IMS Administration Tool) is not required because the discovery process runs dynamically.

IMS settings can change as necessary with system operation, and dynamic discovery detects the current settings at the time the function needs to run.

**Register IMS Systems management reference**

The Register IMS Systems management interface displays the list IMS subsystems that have been registered to the IMS Administration Tool environment.

*Table 11. Register IMS Systems management*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (Create)</td>
<td>Create and register a new IMS subsystem. Opens the Register an IMS Subsystem panel.</td>
</tr>
<tr>
<td>S (Sort)</td>
<td>Sort the IMS subsystem display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-6) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).</td>
</tr>
<tr>
<td>IMSID Filter</td>
<td>Limits the displayed IMSID list according to the characters and wildcards specified as filter criteria. For example: <code>ims1</code>, <code>ims*</code>, <code>*</code></td>
</tr>
<tr>
<td>D (delete)</td>
<td>Delete a currently registered IMS subsystem from the IMS Administration Tool environment. IMS subsystems that are registered to IMS Administration Tool become recognized by IMS Administration Tool, and are enabled to participate in the IMS Administration Tool environment. This delete operation only removes the IMS subsystem from the view of IMS Administration Tool. It does not remove the installation of the IMS subsystem from the overall IMS environment. <strong>Note:</strong> When an IMS subsystem (IMSID) is deleted from the IMS Administration Tool registry, IMSIDs from the VSAM options file are not deleted. Many server environments could have the same IMSIDs registered and the same VSAM options file is used by the different servers. If an IMSID is deleted from the VSAM options file, then the VSAM options file might not be usable by the other servers.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Create and register a new IMS subsystem using the selected IMS subsystem as a model.</td>
</tr>
<tr>
<td>U (update)</td>
<td>Update any system information for the selected IMS subsystem.</td>
</tr>
<tr>
<td>V (view)</td>
<td>Display system information for the selected IMS subsystem. No changes to the subsystem information can be made in this view.</td>
</tr>
</tbody>
</table>
Table 11. Register IMS Systems management (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (show discovered IMS system information)</td>
<td>Display a report of IMS system information that is gathered in real-time upon request. The IMS system report includes information dynamically gathered from the following IMS regions:</td>
</tr>
<tr>
<td></td>
<td>• IMS Subsystem details</td>
</tr>
<tr>
<td></td>
<td>• IMS Control Region</td>
</tr>
<tr>
<td></td>
<td>The IMS control region automatically starts the remaining regions as part of its initialization.</td>
</tr>
<tr>
<td></td>
<td>To complete initialization, the remaining regions must start and then connect to the IMS control region.</td>
</tr>
<tr>
<td></td>
<td>• DBRC region</td>
</tr>
<tr>
<td></td>
<td>The DBRC region provides all access to the DBRC recovery control (RECON). Every IMS control region must have a DBRC region, for managing the IMS logs.</td>
</tr>
<tr>
<td></td>
<td>• DL/I region</td>
</tr>
<tr>
<td></td>
<td>The DL/I separate address space (DLISAS) performs most data set access functions for IMS databases (except DEDB DB).</td>
</tr>
<tr>
<td></td>
<td>• IRLM region</td>
</tr>
<tr>
<td></td>
<td>The internal resource lock manager (IRLM) allows you to perform block-level or sysplex data sharing.</td>
</tr>
<tr>
<td></td>
<td>• CQS region</td>
</tr>
<tr>
<td></td>
<td>Common Queue Server (CQS) is a generalized server that manages data objects on a z/OS coupling facility. CQS is used by IMS shared queues and the Resource Manager as part of the Common Service Layer (CSL).</td>
</tr>
<tr>
<td></td>
<td>The CSL simplifies the administration and operation of multiple IMS systems that share resources or message queues.</td>
</tr>
<tr>
<td></td>
<td>• JES2 region</td>
</tr>
<tr>
<td></td>
<td>The job entry subsystem (JES) receives jobs into the operating system, schedules jobs for processing by z/OS, and controls job output processing.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> In the IMS Control Region: Data Set Information section of the system report, the DFSCX000 ddname, and sometimes the DFSCD000 ddname, do not display the respective data set names.</td>
</tr>
</tbody>
</table>

Register an IMS Subsystem reference

The Register an IMS Subsystem interface allows you to register a new IMS subsystem to the IMS Administration Tool environment.

Table 12. Register an IMS Subsystem

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS Subsystem ID</td>
<td>The 1-4 character name of the IMS subsystem. Required.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>User Description</td>
<td>A 1-24 character informative description for the IMS subsystem that indicates its role and function, and is useful to users.</td>
</tr>
<tr>
<td>IMS PROC/JOB DSN</td>
<td>The data set name (up to 44 characters) of a JES PROCLIB or PDS that contains the member of the IMS control region procedure or job JCL. Required.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>IMS.COMMON.PROCLIB</td>
</tr>
<tr>
<td>Control Region Member</td>
<td>The 1 to 8 character member name that contains the procedure or job JCL used to start the IMS control region.</td>
</tr>
<tr>
<td></td>
<td>Required.</td>
</tr>
<tr>
<td></td>
<td>This member name is required so that IMS Administration Tool can dynamically discover information about the IMS environment when needed.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>IEB8CTL</td>
</tr>
<tr>
<td>IRLM PROC/JOB Member</td>
<td>The 1 to 8 character member name that contains the procedure or job JCL used to start the Internal Resource Lock Manager (IRLM).</td>
</tr>
<tr>
<td></td>
<td>IRLM is a global lock manager and is required if you are performing block-level or sysplex data-sharing. Typically, one IRLM address space runs on</td>
</tr>
<tr>
<td></td>
<td>each z/OS system to service all IMS subsystems that share the same set of databases.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>IEB8IRLM</td>
</tr>
<tr>
<td>Control Region User Parms</td>
<td>Additional parameters (up to 60 characters), or overrides to existing parameters (up to 60 characters), that are specified when starting the IMS</td>
</tr>
<tr>
<td></td>
<td>control region.</td>
</tr>
<tr>
<td></td>
<td>IMS Administration Tool needs to know what these parameters are in order to dynamically discover information about the IMS environment when needed.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>RGSUF=IE2</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
</tbody>
</table>
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
| Command Log Stream     | IMS command processor setting.  
                        Specifies the name of the log stream that captures IMS command and response activity for that IMS subsystem.  
Command logging is activated only when a command log stream is specified in this field.  
The command log stream that is specified can be the single global IMS Administration Tool audit log stream (recommended) or a separately configured command log stream associated with this IMS subsystem.  
Any log stream used as an audit or command log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set.  
System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.  
The z/OS System Logger log stream data set is defined using the z/OS IXCMIAPU utility program.  
**Example:**  
SYSLOG.IDQ8.ATY.LOGGER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| User DFSAOE00 Name     | IMS command processor setting.  
The custom name of a user-defined (or vendor-provided) IMS AOI type 2 non-refreshable DFSAOE00 exit that IMS Administration Tool uses to capture IMS commands and command responses and write them to the log stream.  
The IMS AOI DFSAOE00 exit, upon completion, passes control to this exit. This exit is not called for any messages that are configured to be suppressed.  
**Note:** Beginning with IMS V14, the AOI exit can be implemented as a refreshable exit:  
• The "User DFSAOE00 Name" field is appropriate only for specifying a non-refreshable user exit.  
• If you implement a refreshable user exit, leave this field blank.  
Refer to: “Implementing user exit routines” on page 24.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
### Table 12. Register an IMS Subsystem (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Disposition Table</td>
<td>IMS command processor setting. The 1 to 8 character name of a message disposition table. You can use message disposition to suppress messages from the IMS master terminal, the IMS Administration Tool command log, or the IMS secondary master. You can also use message disposition to route messages to an automated operator interface (AOI) token. User-developed AOI exits are sometimes written to suppress messages that would otherwise be sent to the IMS master terminal, or to route the messages to an alternate destination. Message disposition processing is intended to help eliminate the need for users to develop and maintain this exit to suppress unwanted messages. The message disposition table name is user-defined and is not referred to by any other function. For example, the following name might relate to the message disposition table for IMS1: \n\nIMS1MSGD</td>
</tr>
</tbody>
</table>
Chapter 9. Managing groups

IMS groups consist of multiple IMS subsystems with similar processing characteristics.

Managing groups overview

You can use groups to manage database processing tasks more efficiently and logically across large numbers of IMS subsystems.

IMS Administration Tool supports two types of groups:

- IMS command groups
  
  IMS Administration Tool can issue IMS commands synchronously to all of the grouped IMS subsystems.

- IMS data sharing groups
  
  Members of data sharing groups share common IMS databases, IMS IMS catalog, ACBs, PSBs, DBDs, and IMS Tools Knowledge Base repositories.

  Data sharing groups are equivalent to RECON.

An IMS group can consist of up to 64 IMS subsystems, logically related to benefit the management of your environment. Because an IMS subsystem can be a member of multiple groups, processing by IMS group name can be as flexible as required.

Topics:

- “Manage Groups reference” on page 69
- “Define a Group reference” on page 70

Manage Groups reference

The Manage Groups interface lists the existing IMS groups that can function in the IMS Administration Tool environment.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (Create)</td>
<td>Create (define) a new IMS group. Opens the Define a Group panel.</td>
</tr>
<tr>
<td>S (Sort)</td>
<td>Sort the group list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-3) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).</td>
</tr>
<tr>
<td>Group Filter</td>
<td>Limits the displayed group list according to the characters and wildcards specified as filter criteria. For example:</td>
</tr>
<tr>
<td></td>
<td><code>imsgrp01, imsgrp*, *</code></td>
</tr>
<tr>
<td>D (Delete)</td>
<td>Delete a previously created IMS group. Opens the Delete Group Confirmation panel.</td>
</tr>
</tbody>
</table>
### Table 13. Manage Groups (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M (Model)</td>
<td>Create (define) a new group based on (modeled after) the attributes of the selected group. Opens the Define a Group panel and indicates the need to enter a name for the new group that is being created from the model group.</td>
</tr>
<tr>
<td>U (Update)</td>
<td>Modify (update) the attributes of the selected group. Opens the Define a Group panel and shows the existing attributes of the group. You can now add or remove attributes to change the group definition.</td>
</tr>
<tr>
<td>V (View)</td>
<td>Display (view) the attributes of the selected group. No changes to group attributes can be made in this view.</td>
</tr>
</tbody>
</table>

### Define a Group reference

The Define a Group interface allows you to specify a new IMS group for the IMS Administration Tool environment.

### Table 14. Define a Group

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Name</td>
<td>User-provided custom name for the new IMS group.</td>
</tr>
</tbody>
</table>
| Type            | Two types of IMS groups are supported:  
• CMD (IMS command group)  
• DSHR (IMS data sharing group) |
| Description     | Informative description of the group. |
| Primary IMSID   | Required for the IMS data sharing group type (DSHR). Not required (leave empty) for the IMS command group type (CMD). |
| IMSIDs          |  
• IMS command group  
  1 - 64 IMSIDs allowed for this group type.  
  IMSIDs must share the same RECON for IMS command groups.  
• IMS data sharing group  
  In addition to the primary IMSID, 0 - 63 additional non-primary IMSIDs are allowed for this group type. |
Chapter 10. Viewing the audit log

IMS Administration Tool uses a single global audit log to capture processing information for the entire IMS Administration Tool environment.

Viewing the audit log overview

- The audit log is optional.
- Specifying an audit log activates IMS Administration Tool logging.
- The audit log is initially created during z/OS configuration and is defined as a z/OS System Logger log stream data set.

  System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.

- The audit log can be used for recording additional diagnostic information.

  Each function provides a way to allow you to dynamically enable and disable additional diagnostic or tracing information to be written to the audit log.

  The purpose of this capability is to diagnose problems more easily in your environment.

Topics:

- “View Audit Log reference” on page 71
- “Audit log fields and sample” on page 72

View Audit Log reference

The View Audit Log interface allows you to specify display options for the IMS Administration Tool audit log file.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit Log</td>
<td>The audit log name displayed is the single global IMS Administration Tool audit log stream predefined in:</td>
</tr>
<tr>
<td>Setup and Administration &gt; Global Settings &gt; Audit Log</td>
<td></td>
</tr>
</tbody>
</table>
### Table 15. View Audit Log (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Options</td>
<td>The IMS Administration Tool audit log captures records of processing activity. You can limit the view results with the following choices:</td>
</tr>
</tbody>
</table>
|                  | • Audit Records *(only)*  
|                  | • Command Records *(only)*  
|                  | • Audit and Command Records                                                                                                                                                                                |
|                  | By default, the audit log does not capture IMS commands and responses, unless the audit log is additionally specified as an IMS command log stream.                                                          |
|                  | If also specified as a command log stream, command logging is activated and the audit log additionally captures IMS command records.                                                                       |
|                  | Alternatively, a dedicated IMS command log stream can be created during IMS subsystem registration. In this case, the audit log does not capture command and response activity.                                      |
|                  | Command log stream configuration:                                                                                                                                                                           |
|                  | **Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream**                                                                 |
| IMSID            | Audit Log Filter  
|                  | Limits the view results to the specified IMS subsystem.                                                                                                                                                     |
| User             | Audit Log Filter  
|                  | Limits the view results to the specified TSO user ID.                                                                                                                                                      |
| Start Date / Time| Audit Log Filter  
|                  | Limits the view results to the specified start and end time and dates. Date format: yyyy/mm/dd  
|                  | • *yyyy* is expressed as a 4-digit year.  
|                  | • *mm* is expressed as a 2-digit month between 01 and 12.  
|                  | • *dd* is expressed as a 2-digit day between 01 and 31.  
| End Date / Time  |                                                                                                                                             
|                  | Time format: hh:mm:ss  
|                  | • *hh* is expressed as a 2-digit value for hours between 00 and 23.  
|                  | • *mm* is expressed as a 2-digit value for minutes between 00 and 59.  
|                  | • *ss* is expressed as a 2-digit value for seconds between 00 and 59.  

### Audit log fields and sample

This topic provides the list of information fields that are included in each audit log record.

#### Log record fields

The audit log captures a variety of product activity.
Each record includes:

- **Audit log indicator**  
  A = audit, C = command
- **Date / Timestamp**
- **IMSID**
- **IMS Tools Knowledge Base server name**
- **Action**
- **Jobname of Distributed Access Infrastructure SOT (Subordinate Tools Access Servers) address space**
- **TSO user ID**
- **Return code, reason code, error message**

### Audit log sample

```
A 2019/11/19 11:06:37 IDQ8       ADNSRV16 ADD     ADN#0001TSSMD         RC=00000000 RSN=00000000
A 2019/11/21 17:20:11 ADNSRV16 UPDATE  ADN#0003PDBISC Update Configuration options
A 2019/11/21 17:21:24 IEI1       ADNSRV16 ADD     ADN#0003PDBISC Update/add IMS Information
A 2019/11/21 17:21:25 IEI1       ADNSRV16 ADD     ADN#0003PDBISC RC=00000000 RSN=00000000
A 2019/11/28 19:11:42 JYDSRV16 UPDATE  JYD#0001TSJYDA Update Configuration options
A 2019/11/28 19:11:42 JYDSRV16 UPDATE  JYD#0001TSJYDA RC=00000000 RSN=00000000
A 2019/11/30 18:08:30 IEB8       LHCSRV16 UPDATE  LHC#0002TSLHCA Update/add IMS Information
A 2019/11/30 18:08:44 IEI8       LHCSRV16 UPDATE  LHC#0001TSLHCA Update/add IMS Information
A 2019/11/30 18:08:44 IEI8       LHCSRV16 UPDATE  LHC#0001TSLHCA RC=00000000 RSN=00000000
A 2019/11/30 18:08:55 IEQ8       LHCSRV16 UPDATE  LHC#0003TSLHCA Update/add IMS Information
A 2019/11/30 18:08:56 IEQ8       LHCSRV16 UPDATE  LHC#0001TSLHCA RC=00000000 RSN=00000000
A 2019/12/06 12:26:32 LHCSRV16 UPDATE  LHC#0002TSLHCA Update Configuration options
A 2019/12/06 12:27:23 LHCSRV16 UPDATE  LHC#0002TSLHCA RC=00000000 RSN=00000000
A 2019/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN Update/add IMS Information
A 2019/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN RC=00000000 RSN=00000000
A 2019/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN Environment discover fail
A 2019/12/06 12:27:27 IDC7       ADNSRV16 ADD     ADN#0002TSADN ATY3113E - CTRLGN
A 2019/12/06 16:04:09 IEIW       LHCSRV16 UPDATE  LHC#0002TSLHCA Update/add IMS Information
A 2019/12/06 16:00:02 ICQ        LHCSRV16 ADD     LHC#0002TSLHCA Update/add IMS Information
```

Chapter 10. Viewing the audit log 73
Chapter 11. Configuring message disposition

You can use message disposition to suppress messages from the IMS master terminal (MTO), the IMS Administration Tool message log, or the IMS secondary master. You can also use message disposition to route messages to an automated operator interface (AOI) token.

Note: Suppressing messages from the IMS secondary master is valid only for IMS 10.1 and higher.

Message disposition overview

IMS Administration Tool message disposition processing is controlled by user-defined tables that are stored in the options data set and that are loaded into storage at IMS start up. Multiple IMS systems can be defined to load the same tables from the options data set, but they do not share the tables after the tables loaded into memory.

You use the IMS Administration Tool user interface to add message IDs to the message tables and specify their disposition. The messages can be suppressed from the IMS master terminal or the IMS Administration Tool combined message log.

Message disposition tables can be updated without requiring an IMS startup.

Message disposition is invoked as part of the IMS automated operator interface (AOI) exit:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

DFSAOE00 is not used if you are implementing a refreshable exit routine.

You can also write your own AOI exit to suppress messages that would otherwise be sent to the IMS master terminal, or to route the messages to an alternate destination.

You can use message disposition to:

- Suppress messages from the IMS master terminal.
- Suppress messages from the IMS Administration Tool message log.
- Suppress messages from the IMS secondary master terminal (IMS 12 and higher).
- Route messages to an AOI token.
- Manage message disposition tables and the list of messages designated for disposition.
- Dynamically refresh the list of messages without an IMS restart.
- Help control or eliminate messages from user-developed code.

Topics:

- “Configure Message Disposition management reference” on page 75
- “Create, Update, View Message Disposition reference” on page 76
- “Refreshing message disposition table configuration” on page 77

Configure Message Disposition management reference

The Configure Message Disposition management interface allows you to specify new message disposition configuration and manage existing message disposition configuration.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (Create)</td>
<td>Create (define) a new message disposition table and message ID.</td>
</tr>
</tbody>
</table>
Table 16. Configure Message Disposition (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D (Delete)</td>
<td>Delete a message ID from a message disposition table.</td>
</tr>
</tbody>
</table>
| M (Model) | • Add a new message ID to an existing message disposition table, or  
• Create a new message disposition table with the same message ID or a new message ID. |
| U (Update) | Modify (update) the message disposition configuration for the selected message ID in the selected message disposition table. |
| V (View) | Display (view) the message disposition configuration for the selected message ID in the selected message disposition table.  
No changes to message disposition configuration can be made in this view. |

Create, Update, View Message Disposition reference

The Create, Update, View Message Disposition interface allows you to view, create, or change message disposition configuration.

Table 17. Create, Update, View Message Disposition

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| Message Table | User-defined message disposition table name.  
The message table name can be unique to an individual IMS subsystem, or all IMS subsystems can share the same table. |
| Message ID  | Message ID to configure for disposition. |
| Suppress Messages | Message disposition configuration:  
**IMS Master Terminal (MTO)**  
Suppress this message ID if it comes from the IMS master terminal (MTO).  
Y-Yes, N-No  
**IMS Secondary Master**  
Suppress this message ID if it comes from the IMS secondary master.  
**Note:** Suppressing messages from the IMS secondary master is valid only for IMS 10.1 and higher.  
Y-Yes, N-No  
**IMS Administration Tool Logger**  
Suppress this message ID if it comes from the IMS Administration Tool logger.  
Y-Yes, N-No |
Table 17. Create, Update, View Message Disposition (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| AOITOKEN | Route the message ID to a valid AOI token for any user-written or vendor-provided automated operations (AO) application that can process the specified message ID.  
The AO application informs IMS what messages it is interested in receiving based on the AOITOKEN name. |

Refreshing message disposition table configuration

IMS Administration Tool message disposition tables and message ID configuration are stored in the options data set and are loaded into storage at IMS start up.

Any changes made to message disposition configuration after IMS startup are not implemented until you:

• Stop and restart IMS, or
• Dynamically refresh the message disposition tables

You can dynamically refresh the message disposition tables by issuing the following command from any 3270 terminal that is connected to an IMS system:

```
/LOG ATYREFRESH
```

After a successful table refresh, message ATY8301I displays in the IMS control region z/OS log.
Part 4. Database and application administration

The database and application administration function in IMS Administration Tool provides a way for you to view, create, and change IMS databases (DBDs) and application views (PSBs).

Topics:

- Chapter 12, “Database and application administration reference,” on page 81
- Chapter 13, “IMS resource change,” on page 87
- Chapter 14, “Copybook import,” on page 91
- Chapter 15, “DBD and PSB update (ATY@OBJU) JCL,” on page 99
Chapter 12. Database and application administration reference

The database and application administration function in IMS Administration Tool provides a way for you to view, create, and change IMS databases (DBDs) and application views (PSBs).

The function extracts IMS control blocks (DBDs and PSBs) from either the DBDLIB, PSBLIB, ACBLIB, or IMS directory depending on how IMS is configured. Then it decodes the extracted control blocks to readable DBD or PSB source code enabling you to edit the source code through the ISPF interface or the web interface.

After editing the DBD or PSB source code, you can execute the DBD or PSB resource change function or the IMS resource change function to update the IMS environment to reflect changes made to the IMS control blocks, or build JCL to reflect changes at a later time.

When the resource change function is executed, it reads the updated DBD and PSB source code and calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if the IMS catalog is defined in the IMS system, the IMS Catalog Populate utility (DFS3PU00).

IMS Administration Tool automatically determines the DBD library, PSB library, ACB library, IMS directory, and IMS catalog from the parameters and the PROCLIB libraries of the IMS subsystem.

Topics:
- “DBD and PSB selection” on page 81
- “DBD resource change and PSB resource change” on page 83

DBD and PSB selection

You must select a DBD or a PSB to edit. The DBD and PSB management function extracts the selected control block from either the DBDLIB, PSBLIB, ACBLIB, or IMS directory and decodes the control block to readable DBD or PSB macro source.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem.</td>
</tr>
<tr>
<td>Resource Type</td>
<td>DBD or PSB object type.</td>
</tr>
<tr>
<td>DBD or PSB Filter</td>
<td>Specify a wildcard expression to control the number of DBD or PSB objects that display.</td>
</tr>
<tr>
<td>Decoded Source Data Set</td>
<td>The name of the master working data set where DBD- and PSB-related information from a DBDLIB, PSBLIB, ACB library, or the IMS directory is translated into DBD and PSB source code.</td>
</tr>
<tr>
<td>Updated Source Data Set</td>
<td>The name of the working data set that contains a duplicate of the decode source data set. Modifications to DBDs or PSBs can be made to the contents of the update source data set.</td>
</tr>
</tbody>
</table>
Table 18. DBD and PSB selection reference (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Library</td>
<td>Library information and status for the selected IMS subsystem:</td>
</tr>
<tr>
<td></td>
<td>Discovered indicates that the library is determined from the parameters and the PROCLIB libraries of the IMS subsystem. NA indicates that the library is not registered or could not be determined from the PROCLIB libraries of the IMS subsystem.</td>
</tr>
<tr>
<td></td>
<td>• DBD or PSB Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>• ACB Active Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>• ACB Inactive Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>• ACB Staging Library</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available)</td>
</tr>
<tr>
<td></td>
<td>• Directory Active Data Set</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available) ACBs managed by IMS catalog or ACB libraries</td>
</tr>
<tr>
<td></td>
<td>• Directory Staging Data Set</td>
</tr>
<tr>
<td></td>
<td>Discovered or NA (not available) ACBs managed by IMS catalog or ACB libraries</td>
</tr>
<tr>
<td></td>
<td>• Specify other DBDLIB data set names or PSBLIB data set names</td>
</tr>
<tr>
<td></td>
<td>Specify DBD or PSB library data set names to discover different libraries</td>
</tr>
<tr>
<td></td>
<td>• Specify other ACBLIB data set names</td>
</tr>
<tr>
<td></td>
<td>Specify ACB library data set names to discover different libraries</td>
</tr>
</tbody>
</table>

Library Information

Data set name information for the libraries enabled on this IMS subsystem.

The following table summarizes the options available after you select a DBD or a PSB. If you select create, alter, or model, you can edit the DBD or the PSB macro source code.

Table 19. DBD and PSB edit option reference

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create</td>
<td>Create a new DBD or PSB.</td>
</tr>
<tr>
<td>Alter</td>
<td>Update an existing DBD or PSB.</td>
</tr>
<tr>
<td></td>
<td>Alter uses the DBD or PSB copy in the update source data set.</td>
</tr>
<tr>
<td>Model</td>
<td>Create a new DBD or PSB that is based on (modeled after) the selected DBD or PSB.</td>
</tr>
<tr>
<td></td>
<td>The new DBD or PSB can then be imported.</td>
</tr>
</tbody>
</table>
Table 19. DBD and PSB edit option reference (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>View the DBD or PSB code.</td>
</tr>
<tr>
<td></td>
<td>When working with copybooks, the source view can provide detailed DBD segment information.</td>
</tr>
<tr>
<td>Expand Info from IMS</td>
<td>Select an object from an active library (ACB active library or IMS directory active data set) to view detailed (expanded) object information.</td>
</tr>
<tr>
<td></td>
<td>The detailed information provides a convenient single view of object attributes gathered from multiple sources. For example:</td>
</tr>
<tr>
<td></td>
<td>• Database level properties</td>
</tr>
<tr>
<td></td>
<td>• Online status</td>
</tr>
<tr>
<td></td>
<td>• Data set level properties</td>
</tr>
<tr>
<td></td>
<td>• Recovery state</td>
</tr>
<tr>
<td></td>
<td>The expand option is available only through the ISPF interface. If you are using the web interface, detailed (expanded) object information is displayed by default.</td>
</tr>
</tbody>
</table>

To change multiple DBDs and PSBs, do as follows:

- **ISPF interface:** After you edit a DBD or a PSB, the DBD Resource Change panel or the PSB Resource Change panel is displayed. With these panels, you can only change a single resource. To change multiple IMS control blocks all at once, after you edit all the DBDs and PSBs that you want to edit, go to the IMS Resource Change panel to process all the edited resources.

- **Web interface:** The DBD Resource Change panel and the PSB Resource Change panel are not available with the web interface. After you edit DBDs and PSBs, go to the IMS Resource Change panel to process the edited resources.

**DBD resource change and PSB resource change**

The DBD resource change function and the PSB resource change function call the DBDGEN, PSBGEN, ACBGEN utilities, and if the IMS catalog is defined in the IMS subsystem, populates the IMS catalog by calling the IMS Catalog Populate utility (DFS3PU00).

Review these notes before using the DBD and PSB resource change functions:

- The DBD Resource Change panel and the PSB Resource Change panel are available only through the ISPF interface. If you are using the web interface, the same functionality is available in the IMS Resource Change panel.

- The DBD resource change function and the PSB resource change function can process one DBD or PSB at a time. If you want to change multiple DBDs and PSBs, use the IMS resource change function.

The DBD resource change function calls the DBDGEN utility, the ACBGEN utility, and, if the IMS catalog is defined in the IMS subsystem, the IMS Catalog Populate utility (DFS3PU00) to place resource changes in the IMS subsystem. The copybook import function is also supported to import metadata in COBOL or PL/I copybooks to DBD source.

The PSB resource change function calls the PSBGEN utility, the ACBGEN utility, and, if the IMS catalog is defined in the IMS Catalog Populate utility to place resource changes in the IMS subsystem.

If the IMS catalog is defined in the IMS subsystem, an online IMS system must be active while the DBD or PSB Resource Change function is running.
IMS Administration Tool automatically determines the target DBD library, PSB library, ACB library, IMS directory, and IMS catalog from the parameters and the PROCLIB libraries of the IMS subsystem.

The DBD or PSB resource change updates the ACB staging library or the IMS directory staging data set. After the DBD or PSB resource change completes, you must perform the IMS online change (OLC) or the IMPORT DEFN SOURCE(CATALOG) command to activate DBDs and PSBs in the online IMS system.

<table>
<thead>
<tr>
<th>Table 20. DBD and PSB change management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Update Data Set</td>
</tr>
<tr>
<td>Member</td>
</tr>
</tbody>
</table>

**Generation Options**

| Execute (run) or Build JCL | Specify to execute the DBD or PSB resource change or to generate DBD or PSB resource change JCL. For details about the JCL it generates, see Chapter 15, “DBD and PSB update (ATY@OBJU) JCL,” on page 99. |
| Use COPYBOOK | This option is available only with DBD resource change. Specify Y to import copybook information to the DBD source code. If you specify Y, the function analyzes the copybook and inserts corresponding metadata statements into the DBD source for DBDGEN. **Requirement:** The COBOL or PL/I compiler library DDNAME variable must be registered. **Tip:** To change COBOL compiler options, specify the data set that contains the IGYCDOPT module to DDNAME variable CBOPT. For details about variables, see “DDname and keyword variables for copybook import” on page 93. |
| COPYBOOK Cross Reference (XREF) Data Sets | The name of the data set that pairs the DBD with the copybook. You can specify up to 10 data sets. If you are using the ISPF interface, specify Y to view, change, or add data set names. For the format of COPYBOOK XREF files and examples, see “Copybook XREF file” on page 94. |
### Table 20. DBD and PSB change management (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COBOL or PL/I COPYBOOK Data Sets</td>
<td>The names of the data sets where the copybook resides.</td>
</tr>
<tr>
<td></td>
<td>You can specify up to 120 data sets, maximum of 60 for COBOL copybook</td>
</tr>
<tr>
<td></td>
<td>data sets and 60 for PL/I copybook data sets.</td>
</tr>
<tr>
<td></td>
<td>If you are using the ISPF interface, specify Y to view, change, or add data set names.</td>
</tr>
<tr>
<td>Requirement:</td>
<td>The compiler library must be specified as a DDNAME variable.</td>
</tr>
<tr>
<td></td>
<td>DDNAME CBLLIB is for the COBOL compiler library, and DDNAME PLILIB is for</td>
</tr>
<tr>
<td></td>
<td>the PL/I compiler library. Specify either or both depending on the language</td>
</tr>
<tr>
<td></td>
<td>of the copybook that you want to import.</td>
</tr>
<tr>
<td>Tip:</td>
<td>To change COBOL compiler options, specify the data set that contains the</td>
</tr>
<tr>
<td></td>
<td>IGYCDOPT module to DDNAME variable CBLOPT.</td>
</tr>
<tr>
<td></td>
<td>For information about changing DDNAME variables, see Chapter 14,</td>
</tr>
<tr>
<td></td>
<td>“Copybook import,” on page 91.</td>
</tr>
<tr>
<td>DBD Source with COPYBOOK</td>
<td>Specify the name of the output data set for storing the updated DBD source.</td>
</tr>
</tbody>
</table>

### JCL Output Options

<table>
<thead>
<tr>
<th>JCL Output Data Set</th>
<th>The name of the partitioned data set where the generated JCL is stored. The data set must be pre-allocated before you can generate the JCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>The name of the member in the partitioned data set where the generated JCL is stored.</td>
</tr>
<tr>
<td>Job Statements</td>
<td>Specification of the JOB statement of the JCL.</td>
</tr>
<tr>
<td>Allocate JCL Output Data Set?</td>
<td>Allocate the data set where the generated JCL is stored.</td>
</tr>
</tbody>
</table>

**Tip:** If you want to change assembler options used for DBDGEN or PSBGEN, you can do so by describing the options in a sequential data set (PS) and registering the data set to DDNAME variable ASMAOPT.
Chapter 13. IMS resource change

The IMS resource change function calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if the IMS catalog is defined in the IMS subsystem, populates the IMS catalog by calling the IMS Catalog Populate utility (DFS3PU00).

The IMS resource change function can process multiple DBDs and PSBs. Required inputs are DBD and PSB source codes that are decoded and edited. For information about decoding and editing DBD and PSB source, see Chapter 12, “Database and application administration reference,” on page 81.

If the IMS catalog is defined in the IMS subsystem, an online IMS system must be active while the IMS resource change function is running.

IMS Administration Tool automatically determines the target DBD library, PSB library, ACB library, IMS directory, and IMS catalog from the parameters and the PROCLIB libraries of the IMS subsystem.

The IMS resource change function updates the ACB staging library or the IMS directory staging data set. After the IMS resource change completes, you must perform the IMS online change (OLC) or the IMPORT DEFN SOURCE(CATALOG) command to activate DBDs and PSBs in the online IMS system.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object Selection Criteria</td>
<td>Specify the DBDs and PSBs to process.</td>
</tr>
<tr>
<td>Object Type</td>
<td>Specify the type of the resources. DBD, PSB, or both.</td>
</tr>
<tr>
<td>DBD Source Data Set</td>
<td>Specify the data set that contains the DBD source codes to process.</td>
</tr>
<tr>
<td>Select DBDs</td>
<td>Two methods to select DBDs from the DBD update data set:</td>
</tr>
<tr>
<td></td>
<td>• By filter</td>
</tr>
<tr>
<td></td>
<td>• Specify a wildcard expression to control the number of DBDs that display.</td>
</tr>
<tr>
<td></td>
<td>• From list</td>
</tr>
<tr>
<td></td>
<td>• View and select DBDs to be updated.</td>
</tr>
<tr>
<td>PSB Source Data Set</td>
<td>Specify the data set that contains the PSB source codes to process.</td>
</tr>
<tr>
<td>Select PSBs</td>
<td>Two methods to select PSBs from the PSB update data set:</td>
</tr>
<tr>
<td></td>
<td>• By filter</td>
</tr>
<tr>
<td></td>
<td>• Specify a wildcard expression to control the number of PSBs that display.</td>
</tr>
<tr>
<td></td>
<td>• From list</td>
</tr>
<tr>
<td></td>
<td>• View and select PSBs to be updated.</td>
</tr>
</tbody>
</table>

**IMS Resource Change Options**

<p>| Execute (run) or Build JCL   | Specify to execute the IMS resource change or to generate IMS resource change JCL. For details about the JCL it generates, see Chapter 15, “DBD and PSB update (ATY@OBJU) JCL,” on page 99. |</p>
<table>
<thead>
<tr>
<th><strong>Option</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
</table>
| **Use COPYBOOK** | Specify Y to import copybook information to the DBD source code. If you specify Y, the function analyzes the copybook and inserts corresponding metadata statements into the DBD source for DBDGEN.  
**Requirement:** The COBOL or PL/I compiler library DDNAME variable must be registered.  
**Tip:** To change COBOL compiler options, specify the data set that contains the IGYCDOPT module to DDNAME variable CBLOPT.  
For details about variables, see “DDname and keyword variables for copybook import” on page 93. |
| **COPYBOOK Cross Reference (XREF) Data Sets** | The name of the data set that pairs the DBD with the copybook. You can specify up to 10 data sets.  
If you are using the ISPF interface, specify Y to view, change, or add data set names.  
For the format of COPYBOOK XREF files and examples, see “Copybook XREF file” on page 94. |
| **COBOL or PL/I COPYBOOK Data Sets** | The names of the data sets where the copybook resides.  
You can specify up to 120 data sets, maximum of 60 for COBOL copybook data sets and 60 for PL/I copybook data sets.  
If you are using the ISPF interface, specify Y to view, change, or add data set names.  
**Requirement:** The compiler library must be specified as a DDNAME variable. DDNAME CBLLIB is for the COBOL compiler library, and DDNAME PLILIB is for the PL/I compiler library. Specify either or both depending on the language of the copybook that you want to import.  
**Tip:** To change COBOL compiler options, specify the data set that contains the IGYCDOPT module to DDNAME variable CBLOPT.  
For information about changing DDNAME variables, see Chapter 14, “Copybook import,” on page 91. |
| **DBD Source with COPYBOOK** | Specify the name of the output data set for storing the updated DBD source. |

**JCL Output Options**

| **JCL Output Data Set** | The name of the partitioned data set where the generated JCL is stored. The data set must be pre-allocated before you can generate the JCL |
| **Member** | The name of the member in the partitioned data set where the generated JCL is stored. |
| **Job Statements** | Specification of the JOB statement of the JCL. |
| **Allocate JCL Output Data Set?** | Allocate the data set where the generated JCL is stored. |
Tip: If you want to change assembler options used for DBDGEN or PSBGEN, you can do so by describing the options in a sequential data set (PS) and registering the data set to DDNAME variable ASMAOPT.
Chapter 14. Copybook import

The copybook import function imports metadata in COBOL or PL/I copybooks to DBD source. Copybook import is supported as a part of the database and application administration function and the IMS catalog and ACBLIB management function.

The copybook import function can be called from the following functions:

- IMS resource change function
- DBD resource change function
- Import objects (IMS catalog and ACBLIB management)

After importing metadata from copybooks to the DBD source, the function that called the copybook import function uses the updated DBD source and calls the DBDGEN utility, the PSBGEN utility, the ACBGEN utility, and the IMS Catalog Populate utility (DFS3PU00) to update relevant IMS control blocks in your IMS environment.

The copybook import function uses the following information to import metadata from copybooks to the DBD. You supply the location of the resources through the ISPF interface or the web interface.

**DBD**
- The DBD to update.

**COBOL or PL/I copybook**
- One or more copybooks to import.

**Copybook cross reference (XREF) file**
- A file that defines linkage between segments and copybooks.

**Output data sets**
- Output data sets such as for storing updated DBD source and generated DBD resource change JCL.

Subsections:

- “Data attribute mapping” on page 91
- “Considerations for importing PL/I copybooks” on page 93

**Data attribute mapping**

The copybook import function inserts FIELD statements with EXTERNALNAME parameters based on data definitions in the copybook. The copybook import function calculates the start position and the length, and adds START and BYTES parameters. It also adds DATATYPE parameters based on the mapping rules summarized in the following tables:

<table>
<thead>
<tr>
<th>COBOL data type</th>
<th>DBD DATATYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIC S9(4) BINARY</td>
<td>SHORT</td>
</tr>
<tr>
<td>PIC S9(9) BINARY</td>
<td>INT</td>
</tr>
<tr>
<td>PIC S9(18) BINARY</td>
<td>LONG</td>
</tr>
<tr>
<td>PIC 9(4) BINARY</td>
<td>USHORT</td>
</tr>
<tr>
<td>PIC 9(9) BINARY</td>
<td>UINT</td>
</tr>
<tr>
<td>PIC 9(18) BINARY</td>
<td>ULONG</td>
</tr>
<tr>
<td>COMP-1</td>
<td>FLOAT</td>
</tr>
<tr>
<td>COMP-2</td>
<td>DOUBLE</td>
</tr>
</tbody>
</table>
**Table 22. Data attribute mapping from COBOL copybook to DBD DATATYPE (continued)**

<table>
<thead>
<tr>
<th>COBOL data type</th>
<th>DBD DATATYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIC S9(n) COMP-3</td>
<td>DECIMAL(n,p) INTERNALTYPECONVERTER=PACKEDDECIMAL</td>
</tr>
<tr>
<td></td>
<td>DFSMASH statement is added to define data marshaling</td>
</tr>
<tr>
<td></td>
<td>characteristics.</td>
</tr>
<tr>
<td>PIC X(n)</td>
<td>CHAR</td>
</tr>
<tr>
<td>PIC G(n)</td>
<td>BINARY(2n)</td>
</tr>
<tr>
<td>PIC N(n) DISPLAY-1</td>
<td>BINARY(2n)</td>
</tr>
<tr>
<td>PIC N(n) NATIONAL</td>
<td>BINARY(2n)</td>
</tr>
<tr>
<td>PIC 9(n) DISPLAY</td>
<td>DECIMAL(n,p) INTERNALTYPECONVERTER=ZONEDDECIMAL</td>
</tr>
<tr>
<td></td>
<td>DFSMASH statement is added to define data marshaling</td>
</tr>
<tr>
<td></td>
<td>characteristics.</td>
</tr>
</tbody>
</table>

Field with OCCURS attribute
- ARRAY
First element of group items
- STRUCT

**Table 23. Data attribute mapping from PL/I copybook to DBD DATATYPE**

<table>
<thead>
<tr>
<th>PL/I data type</th>
<th>DBD DATATYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL FIXED BINARY(15,0)</td>
<td>SHORT</td>
</tr>
<tr>
<td>REAL FIXED BINARY(31,0)</td>
<td>INT</td>
</tr>
<tr>
<td>REAL FIXED BINARY(63,0)</td>
<td>LONG</td>
</tr>
<tr>
<td>REAL FIXED BINARY(16,0)</td>
<td>USHORT</td>
</tr>
<tr>
<td>REAL FIXED BINARY(32,0)</td>
<td>UINT</td>
</tr>
<tr>
<td>REAL FIXED BINARY(64,0)</td>
<td>ULONG</td>
</tr>
<tr>
<td>REAL FLOAT DECIMAL(6)</td>
<td>FLOAT</td>
</tr>
<tr>
<td>REAL FLOAT DECIMAL(16)</td>
<td>DOUBLE</td>
</tr>
<tr>
<td>FIXED DECIMAL(n,p)</td>
<td>DECIMAL(n,p) INTERNALTYPECONVERTER=PACKEDDECIMAL</td>
</tr>
<tr>
<td></td>
<td>DFSMASH statement is added to define data marshaling</td>
</tr>
<tr>
<td></td>
<td>characteristics.</td>
</tr>
<tr>
<td>CHAR(n)</td>
<td>CHAR</td>
</tr>
<tr>
<td>GRAPHIC(n)</td>
<td>BINARY(2n)</td>
</tr>
<tr>
<td>WIDEC Char(n)</td>
<td>BINARY(2n)</td>
</tr>
<tr>
<td>PICTURE '('n)9'</td>
<td>CHAR(n)</td>
</tr>
<tr>
<td>WIDEPIC '('n)9'</td>
<td>CHAR(2n)</td>
</tr>
<tr>
<td>CHAR(n) VAR</td>
<td>CHAR(n)+2</td>
</tr>
<tr>
<td>CHAR(n) VARYING4</td>
<td>CHAR(n)+4</td>
</tr>
<tr>
<td>CHAR(n) VARYINGZ</td>
<td>CHAR(n)+1</td>
</tr>
</tbody>
</table>
### Table 23. Data attribute mapping from PL/I copybook to DBD DATATYPE (continued)

<table>
<thead>
<tr>
<th>PL/I data type</th>
<th>DBD DATATYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field with array attribute</td>
<td>ARRAY</td>
</tr>
<tr>
<td>First element of structure</td>
<td>STRUCT</td>
</tr>
</tbody>
</table>

### Considerations for importing PL/I copybooks

The following considerations apply when you import copybooks written in PL/I.

- The length of variable names specified in a PL/I copybook must be equal to or less than 30. Otherwise, the variable names will be truncated.
- When a structure in a PL/I copybook contains an array with the REFER option (variable for declared length), the PL/I compiler does not provide sufficient information about that structure. This may result in having an incorrect length in the DBD source.

In the following PL/I copybook example, Y is an array with 20 bytes. However, when this structure is imported, the length is changed to 2 bytes in the DBD source.

```pli
DECLARE  1 STR BASED(P),
         2 X FIXED BINARY(31,0),
         2 Y (10 REFER (X)),
         3 DATA CHAR(2);
```

To prevent this, review and remove all REFER options in the PL/I copybook before you import or update from the PL/I copybook.

### Topics:
- “DDname and keyword variables for copybook import” on page 93
- “Copybook XREF file” on page 94
- “Examples for copybook import” on page 95

### DDname and keyword variables for copybook import

Before you can import metadata from copybooks, you must register the following DDname and keyword variables using the ISPF interface or the web interface.

To register DDname and keyword variables:

- **ISPF:** 0 Setup and Administration > 1 Update Product Registry > 3 Variable Management
- **Web interface:** Setup and Admin > Variable Management

#### COBOL and PL/I compiler library

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBLLIB</td>
<td>Specify the name of the COBOL compiler library data set.</td>
</tr>
<tr>
<td>PLILIB</td>
<td>Specify the name of the PL/I compiler library data set.</td>
</tr>
</tbody>
</table>

#### Copybook XREF format

Optional keyword variable. The copybook XREF file has two formats, type-0 and type-1. Type-0 is supported for both COBOL and PL/I. Type-1 is supported only for COBOL. Type-0 is the default. If you want to use type-1, you must register this keyword variable.
**Variable name** | **Description**
---|---
XREFFORM | Specify the format of the copybook XREF file, TYPE1 or TYPE0. If omitted, the default is TYPE0.

For more information about the format of copybook XREF files, see “Copybook XREF file” on page 94.

**Copybook language**
Optional keyword variable. If the copybook XREF file has type-0 format, XREF statements contain the copybook language, either COBOL or PL/I. This keyword variable overrides the language specified on the XREF statements. The default is COBOL. If you mainly use PL/I, you can change the value to PLI.

| **Variable name** | **Description** |
---|---|
COPYLANG | Specify the language of the copybook, PLI or COBOL. If omitted, the default is COBOL.

**COBOL compiler option**
Optional DDname variable. If you want to change the COBOL compiler options, specify the data set that contains the IGYCDOPT module.

The data set is a load library and the data set organization must be RECFM=U, LRECL=0.

| **Variable name** | **Description** |
---|---|
CBLOPT | Specify the data set that contains the IGYCDOPT module.

**Copybook XREF file**
A copybook XREF file contains copybook XREF statements that define mapping of each copybook to a segment.

A copybook XREF file is a PDS or PDSE, attributes are RECFM=FB and LRECL=80. The member name must match the name of the DBD to map.

Two formats are supported for copybook XREF files, type-0 and type-1. Type-0 can be used for both COBOL and PL/I, type-1 can be used for COBOL only. Type-0 is assumed unless the copybook XREF format keyword variable (XREFFORM) is set to TYPE1.

Subsections:
- “Type-0 copybook XREF statement syntax” on page 94
- “Type-1 copybook XREF statement syntax” on page 95

**Type-0 copybook XREF statement syntax**
Type-0 copybook XREF file supports both COBOL and PL/I. Each XREF statement specifies the language of the copybook, either COBOL or PL/I.

The following figure shows the syntax for type-0 copybook XREF statements.

![Type-0 copybook XREF statement syntax](image)

*Figure 5. Type-0 copybook XREF statement syntax*
### Position | Description
--- | ---
Columns 1 - 5 | Specify the SEGM= keyword.
Columns 6 - 13 | Specify, left-aligned, a segment name.
Column 14 | Filler. A blank or any character. The character in this column is ignored.
Columns 15 - 23 | Specify the COPYBOOK= keyword.
Columns 24 - 31 | Specify, left-aligned, the name of the copybook to map the segment. The name of the copybook must match a member in the copybook data set.
Column 32 | Filler. A blank or any character. The character in this column is ignored.
Columns 33 - 42 | Optional. Specify LANG=COBOL or LANG=PLI. If omitted, LANG=COBOL is applied.

To change the default language, set the copybook language keyword variable (COPYLANG). For more information, see copybook language in “DDname and keyword variables for copybook import” on page 93.

### Type-1 copybook XREF statement syntax

Type-1 copybook XREF file supports COBOL only. To use a type-1 copybook XREF file, you must set the copybook XREF format keyword variable (XREFFORM) to TYPE1. For more information, see copybook XREF format in “DDname and keyword variables for copybook import” on page 93.

The following figure shows the syntax for type-1 copybook XREF statements.

```
----+----1----+----2----+----3----+----4----+
@@ The first line of Type1 is skipped. @@
SEGNAME1                SEG1COPY
SEGMENT2                SEG2COPY
                  |        |       |               |
                  |        |       |               |-Col34-41 Copybook name
                  |        |       |-Col18-33 Filler
                  |        |        |-Col10-17 Segment name
                  |        |-Col1 - 9 Filler
```

Figure 6. Type-1 copybook XREF statement syntax

The first line is ignored. You can write comments on this line.

### Examples for copybook import

Use the following example to learn how to use the copybook import function.

In this example:

- DBD name is ATYDBD0. The DBD has two segments, ATYSEG1 and ATYSEG2.
- The copybook data set contains two members, ATYCOPY1 and ATYCOPY2. The language used for the copybooks is COBOL.
The name of the copybook XREF file is ATYDBD0, which is the same as the DBD name. This file exists in the ATY.XREF data set. The format of the copybook XREF file is type-0.

The copybook XREF file contains the following copybook XREF statements:

```
SEGM=ATYSEG1 COPYBOOK=ATYCOPY1 LANG=COBOL SEGM=ATYSEG2 COPYBOOK=ATYCOPY2 LANG=COBOL
```

The decoded DBD (DBD source) contains the following statements.

```
DBD NAME=ATYDBD0,ACCESS=(HDAM,OSAM), RMNAME=(DFSHDC40,8,360,3000)
* DS1 DATASET DD1=SAMPL0,SIZE=(4096),SCAN=0
  * SEGM NAME=ATYSEG1,BYTES=20,PARENT=0,RULES=(LLL,LAST), PTR=(TWIN,,,,)
    FIELD NAME=(FLD1,SEQ,U),BYTES=10,START=1,TYPE=C
    FIELD NAME=(FLD2),BYTES=10,START=11,TYPE=C
  * SEGM NAME=ATYSEG2,BYTES=40,PARENT=((ATYSEG1,)), PTR=(TWIN,,,,),RULES=(LLL,LAST)
    FIELD NAME=(FLD10,SEQ,U),BYTES=30,START=1,TYPE=C
    FIELD NAME=(FLD20),BYTES=5,START=31,TYPE=C
    FIELD NAME=(FLD30),BYTES=5,START=31,TYPE=C
* DBDGEN FINISH END
```

Figure 7. DBD source (decoded)

The following examples show the contents of copybooks ATYCOPY1 and ATYCOPY2. The names of the members in the copybook data set are ATYCOPY1 and ATYCOPY2.

Figure 8. Content of copybook ATYCOPY1

Figure 9. Content of copybook ATYCOPY2

After the copybook import function imports metadata in copybook ATYCOPY1 to segment ATYSEG1 and metadata in copybook ATYCOPY2 to segment ATYSEG2, the DBD source is updated as follows:
**Figure 10. DBD source updated with copybook (Part 1 of 2)**

**Figure 11. DBD source updated with copybook (Part 2 of 2)**

Chapter 14. Copybook import 97
Chapter 15. DBD and PSB update (ATY@OBJU) JCL

ATY@OBJU JCL, also referred to as DBD and PSB update JCL, updates DBDs and PSBs.

ATY@OBJU JCL is generated by the following functions, regardless of whether the ISPF interface or the web interface is used:

- The Build JCL option of the DBD resource change function, the PSB resource change function, and the IMS resource change function (database and application administration)
- Import objects (IMS catalog and ACBLIB management)

The ATY@OBJU job performs DBDGEN, PSBGEN, ACBGEN, and, if IMS catalog is defined in the IMS system, the IMS catalog populate utility (DFS3PU00). If the Use COPYBOOK option is selected, the ATY@OBJU job also performs copybook import before DBDGEN.

The target DBDLIB, PSBLIB, ACBLIB, IMS directory, and IMS catalog are automatically determined by IMS Administration Tool from the parameters and the PROCLIB libraries of the IMS system.

Requirements:

- The IMS Tools Base Knowledge Base server and the Distributed Access Infrastructure (DAI) TCP server, TAS, and SOT address spaces must be active.
- The IMS system must be either active or inactive under certain circumstances. See “Requirement: Status of the online IMS system ” on page 101.

Topics:

- “ATY@OBJU JCL statements” on page 99
- “Requirement: Status of the online IMS system ” on page 101
- “Scenarios for "Initial Load" and "Overwrite Existing Objects"” on page 101

ATY@OBJU JCL statements

The data sets specified in the JCL are automatically determined from the parameters and PROCLIB of the IMS system.

You can change the data sets if you want to use other DBDLIB, PSBLIB, and ACBLIB data sets. IMS directory and IMS catalog cannot be specified in the JCL. If you do not want to update the IMS catalog and the IMS directory, you can suppress the IMS catalog populate step. For more information, see “ATYMSGI DD” on page 99 statement.

STEPLIB DD

The product and customized load library data sets of IMS Administration Tool and IMS Tools Base.

Input DD statements

ATYMSGI DD

Pre-coded internal control statements of ATY@OBJU.

- FUNCTION=UPDATE is set if the JCL was generated by DBD, PSB, or IMS resource change.
- FUNCTION=IMPORT is set if the JCL was generated by Import Objects.

Generally, you do not need to change the ATYMSGI control statements. However, if you do not want to update the IMS catalog and the IMS directory, modify as follows so that only the IMS catalog populate (DFS3PU00) step is suppressed.

- CATALOG=N
- PENDCAT=N
- INITILOAD=N, if exists.
**ATYDBD DD**
The data set that contains DBD source codes. The data set organization is PDS or PDSE, RECFM=FB,LRECL=80. This DD statement is required when ATYMSGI FUNCTION=UPDATE.

**ATYPSPB DD**
The data set that contains PSB source codes. The data set organization is PDS or PDSE, RECFM=FB,LRECL=80. This DD statement is required when ATYMSGI FUNCTION=UPDATE.

**ATYXREF DD**
The data sets that contain cross reference (XREF) files for copybook import. Up to 10 data sets can be specified. The data set organization is RECFM=FB,LRECL=80.

This DD statement is present if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL. For details about copybook import, see Chapter 14, “Copybook import,” on page 91.

**ATYPLI DD**
The data sets that contain PL/I copybooks. Up to 60 data sets can be specified. The data set organization is RECFM=FB,LRECL=80.

This DD statement is present if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL.

**ATYCOPY DD**
The data sets that contain COBOL copybooks. Up to 60 data sets can be specified. The data set organization is RECFM=FB,LRECL=80.

This DD statement is present if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL.

**Output DD statements**

**ATYPUTDB DD**
The data sets where IMS Administration Tool stores DBD source codes that are updated with copybooks. The data set organization is RECFM=FB,LRECL=80.

This DD statement is used if you selected the Use COPYBOOK option when generating the ATY@OBJU JCL.

**DBDLIB DD**
The IMS DBD library. This DBD library will be updated by DBDGEN, and will be referred to during ACBGEN.

**PSBLIB DD**
The IMS PSB library. This PSB library will be updated by PSBGEN, and will be referred to during ACBGEN.

**IMSACBA DD**
**IMSACBB DD**
**IMSACB DD**
IMS active, inactive, and staging ACB libraries. The IMSACB (staging ACB library) will be updated by ACBGEN, and will be referred to by the IMS catalog populate utility.

**DBDPRINT DD**
**PSBPRINT DD**
**LNKPRINT DD**
**SYSPRINT DD**
**ATYMSGS DD**
**ATYERROR DD**
**FABXAMSG DD**
Output destination for reports, messages, and assemble listing.
Requirement: Status of the online IMS system

The ATY@OBJU job updates or initializes the IMS catalog and the IMS directory by performing the IMS catalog populate utility (DFS3PU00). The online IMS system must be either active or inactive depending on the INITLOAD parameter value of the ATYMSGI control statement.

The INITLOAD parameter value in the ATYMSGI control statement is inherited from the Initial Load value that is specified through the web interface or the ISPF interface.

If INITLOAD=N, or INITLOAD is not present in the ATYMSGI control statement

The IMS system must be active while the ATY@OBJU job is running because the job updates the existing IMS catalog and the IMS directory with BMP.

The ACB members of DBDs and PSBs are stored in the ACB staging library or the IMS directory staging data set. After the ATY@OBJU job completes, you must perform the IMS online change (OLC) or the IMPORT DEFN SOURCE(CATALOG) command to activate DBDs and PSBs in the IMS system.

If INITLOAD=Y is present in the ATYMSGI control statement

The ATY@OBJU initializes (create, or delete and define) an IMS catalog and IMS directory.

• If the IMS management of ACBs is enabled, the online IMS system must be inactive. The ACB members of DBDs and PSBs are stored in the IMS directory active data set. When the IMS online system starts, the ACB members in the IMS directory active data set are loaded to IMS.

• If the IMS management of ACBs is not enabled, the online IMS system must be inactive, or the online IMS system must be active with /DBR commands issued against the IMS catalog database and index (/DBR'd). The ACB members of DBDs and PSBs are stored in the ACB library staging data set. You must perform the IMS online change (OLC) to activate DBDs and PSBs in the IMS system.

Scenarios for "Initial Load" and "Overwrite Existing Objects"

DBD and PSB objects to update and the destination data sets (ACB active or staging library, IMS directory active or staging data sets) are determined based on the Overwrite Existing Objects option and the Initial Load option.

The following scenarios explore the possible object management combinations and describe the effect of these options on each environment.

1) IMS management of ACBs is enabled

The following conditions apply to this scenario:

• IMS catalog is defined to IMS.

• IMS environment uses IMS directory to manage ACBs. (ACBMGMT=CATALOG is present in the DFSDFxxx member)

• IMS environment does not use ACB library to manage ACBs.

  Note: The import objects function requires an ACB library to run ACBGEN and the IMS catalog populate utility (DFS3PU00). The function obtains the ACB library data set information from the IMSACB DD statement in the IMS control region JCL.

How the import objects function performs in this scenario:

Overwrite Existing Objects is Yes and Initial Load is No

• Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB library has the same name, they are overwritten.

• Performs DFS3PU00 to populate the IMS directory staging data set and the IMS catalog with the new and updated DBDs and PSBs from the ACB library.
Overwrite Existing Objects is Yes and Initial Load is Yes

- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB library has the same name, they are overwritten.
- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory, it populates the IMS directory active data sets and the IMS catalog with all DBDs and PSBs (new, updated, and existing) from the ACB library.

Overwrite Existing Objects is No and Initial Load is No

- Checks the ACB library to determine if members with the same names exist in the ACB library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00 to populate the IMS directory staging data set and the IMS catalog with the new objects from the ACB library.

Overwrite Existing Objects is No and Initial Load is Yes

- Checks the ACB library to determine if members with the same names exist in the ACB library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory, it populates the IMS directory active data sets and the IMS catalog with all DBDs and PSBs (new and existing) from the ACB library.

2) IMS catalog is enabled and IMS Management of ACBs is not enabled

The following conditions apply to this scenario:

- IMS catalog is defined to IMS.
- IMS environment uses ACB library to manage ACBs.

How the import objects function performs in this scenario:

**Overwrite Existing Objects is Yes and Initial Load is No:**
- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB staging library has the same name, they are overwritten.
- Performs DFS3PU00 to populate the IMS catalog with the new and updated DBDs and PSBs from the ACB staging library.

**Overwrite Existing Objects is Yes and Initial Load is Yes**
- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB staging library has the same name, they are overwritten.
- Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory (see Note), it populates the IMS catalog with all DBDs and PSBs (new, updated, and existing) from the ACB staging library.

**Overwrite Existing Objects is No and Initial Load is No**
- Checks the ACB staging library to determine if members with the same names exist in the ACB staging library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
- Performs DFS3PU00 to populate the IMS catalog with the new DBDs and PSBs from the ACB staging library.

**Overwrite Existing Objects is No and Initial Load is Yes**
- Checks the ACB staging library to determine if members with the same names exist in the ACB staging library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
• Performs DFS3PU00. After initializing (delete and define) the IMS catalog and the IMS directory (see Note), it populates the IMS catalog with all DBDs and PSBs (new and existing) from the ACB staging library.

**Note:** Although IMS directory is not used in this environment, IMS directory data sets, if they exist, are deleted and defined.

### 3) IMS catalog is not enabled

The following conditions apply to this scenario:

- IMS catalog is not defined to IMS.
- IMS environment uses ACB library to manage ACBs.

In this scenario, the Initial Load option is not available.

How the import operation performs in this scenario:

**Overwrite Existing Objects is Yes**
- Performs DBDGEN, PSBGEN, and ACBGEN against all the selected DBDs and PSBs. If any of the existing objects in the ACB staging library has the same name, they are overwritten.

**Overwrite Existing Objects is No**
- Checks the ACB staging library to determine if members with the same names exist in the ACB staging library. Performs DBDGEN, PSBGEN, and ACBGEN only against new DBDs and PSBs so that no existing objects are overwritten.
The IMS catalog is a system database that, when enabled, stores the definitions of your databases and program specification blocks (PSBs), as well as other metadata about your databases and application programs.

**Topics:**
- Chapter 16, “IMS catalog overview,” on page 107
- Chapter 17, “IMS catalog space analysis and summary reports,” on page 111
- Chapter 18, “DBD/PSB compare,” on page 117
- Chapter 19, “Export objects and import objects,” on page 123
Chapter 16. IMS catalog overview

The IMS catalog is an optional system database that, when enabled, stores trusted metadata and definitions about your databases (DBDs) and application program specification blocks (PSBs) that are defined to IMS.

The IMS catalog is itself a HALDB PHIDAM database. Each database and application program view that is defined to IMS is stored in a separate record in the IMS catalog. In each record, the root header segment identifies the type of resource that it contains: either a database definition (DBD) or a program view (PSB).

Depending on whether you enable the IMS management of application control blocks (ACBs), you have different options for how you define databases and program views, add them to the IMS catalog, and activate them in the IMS system.

When IMS manages the ACBs, you can define databases and program views either by using SQL data definition language (DDL) statements or by using the input macros of the DBD Generation utility and PSB Generation utility.

When you use DDL statements, IMS can add the database and program view definitions to the IMS catalog, build the required runtime control blocks, and, in some cases, load them into the online IMS system automatically.

When you use the DBD and PSB Generation utilities to define databases and program views in an IMS system that manages ACBs, after you run the utilities, you must also run the ACB Generation and Populate utility (DF53UACB) or equivalent utilities to build the ACBs, update the IMS catalog, and load the ACBs into the IMS system.

In an IMS system that manages ACBs, the IMS catalog completely replaces DBD, PSB, and ACB libraries as the component that determines which database and program view definitions are used by the online IMS system and by batch application programs.

When the IMS management of ACBs is disabled, you cannot use DDL to define databases and program views. Instead, you must define them by using the DBD and PSB Generation utilities, you must generate members into an ACB library, and you must use the online change process to activate the ACB library. You must also make sure that the IMS catalog remains in sync with the active ACB libraries.

The IMS catalog serves to make IMS data more widely and easily accessible outside of the mainframe. The catalog's trusted and comprehensive view of IMS database metadata, fully managed by IMS, allows IMS to participate in solutions that require the exchange of metadata. An example of a solution that requires such an exchange is business impact analysis.

IMS directory data sets

When the IMS management of application control blocks (ACBs) is enabled, IMS stores the active ACBs in the IMS directory, a collection of system-managed data sets that are an extension of the IMS catalog. The IMS directory data sets include:

- Data sets for the ACBs that are active in the IMS system.
- A staging data set for ACBs that are pending activation.
- A bootstrap data set that IMS uses to manage the IMS directory.

The IMS directory data sets that store the active and pending ACBs are functionally similar to the ACB library (ACBLIB) data sets that you would use to manage ACBs when the IMS management of ACBs is not enabled.

Unlike an active ACBLIB data set, the active ACB data sets of the IMS directory are system data sets that IMS creates, updates, and manages automatically. IMS automatically allocates the data sets for the IMS directory and keeps the IMS directory in sync with the IMS catalog. When an active ACB data set becomes full, IMS automatically allocates another data set.

When IMS ACB management is enabled:
• IMS references the directory data sets to get the runtime application control blocks
• IMS uses the directory to indicate which members are active in the IMS catalog

Topics:
• “Catalog and non-catalog IMS environments” on page 108
• “IMS catalog management business scenarios” on page 110

Catalog and non-catalog IMS environments

The IMS catalog contains trusted metadata and definitions of the IMS databases and application program views that are defined to IMS.

If IMS management of ACBs is enabled, the IMS catalog also determines the active databases and program views (PSBs) in the IMS system, because ACB libraries are not used.

When IMS uses ACB libraries, the ACB library determines which databases and program views are active, and you must ensure that the IMS catalog is always in synch with the ACB library.

When the IMS catalog is enabled, the following scenarios are possible for ACB management:

• IMS catalog enabled, no ACBLIB present, ACBs managed by IMS.
• IMS catalog enabled, ACBLIB present, ACBs managed by IMS.
• IMS catalog enabled, ACBLIB present, ACBs managed by ACBLIB.
• IMS catalog not enabled, ACBLIB present, ACBs managed by ACBLIB.

1) Catalog enabled - No ACBLIB - IMS management of ACBs

The following conditions apply to this scenario:

• IMS environment is catalog-enabled
• IMS environment does not use ACB library
• IMS management of ACBs

Environment characteristics:

• IMS stores ACBs in the IMS directory.
  The IMS directory is a collection of system-managed data sets that are an extension of the IMS catalog.
• IMS stores and refers to active ACBs in IMS directory active data sets.
• IMS stores and refers to pending ACBs in the IMS directory staging data set.
  The pending ACBs are new or changed objects that are imported with more recent timestamps than active ACBs.
• DDL is the only mechanism available to update objects in the IMS directory.

2) Catalog enabled - ACBLIB used - IMS management of ACBs

The following conditions apply to this scenario:

• IMS environment is catalog-enabled
• IMS environment uses ACB library
• IMS management of ACBs

Environment characteristics:

• ACBLIB can be present even for IMS systems that have catalog managed ACBs. Reasons for this configuration include:
  1. IMS environment is being converted to IMS management of ACBs (catalog) and ACBLIB is kept present for fallback purposes.
2. The IMS instance is part of an IMSPLEX, and not all members of the plex have been converted to use IMS management of ACBs.

3. Administrators do not want to be limited to using DDL to control database and program definitions.
   - Both ACBLIB and IMS directory (catalog) are used to update DBD and PSB definitions.
   - Synchronization of objects between ACBLIB and IMS directory (catalog) is the responsibility of the administrator.
   - To update objects in the IMS directory (catalog), use DDL, or alternatively use ACBGEN and the IMS Catalog Populate utility.
   - DBDLIBs are still required for certain types of DBDs (GSAM and logical DBDs).

3) Catalog enabled - ACBLIB used - ACBLIB management of ACBs

The following conditions apply to this scenario:
   - IMS environment is catalog-enabled
   - IMS environment uses ACB library
   - ACBLIB management of ACBs

**Environment characteristics:**
   - DBDs are managed in DBDLibs.
   - PSBs are managed in PSBLIBs.
   - ACBs are managed in ACBLIB.

   ACBLIBs contain pre-processed DBDs and PSBs.
   - Pre-processing meaning that an IMS utility has already performed some validation and outputs the DBDs and PSBs into a format where the IMS online system only needs to load them in order to use them.
   - Each IMS environment using ACBLIB typically has:
     - A staging ACBLIB
     - An inactive ACBLIB
     - An active ACBLIB
   - Typically there is just one staging ACBLIB, one inactive ACBLIB, and one active ACBLIB per IMS environment.

   However, some environments have more than one of each type of ACBLIB.
   - The catalog is not automatically updated with the new and updated objects.

   Synchronization of objects between ACBLIB and IMS directory (catalog) is the responsibility of the administrator.
   - To update objects in the catalog, use ACBGEN and the IMS Catalog Populate utility.
   - Synchronization of new and updated objects between ACBLIB and catalog is recommended because extended information in DBDs is required by applications using SQL.

   This extended information comes from the catalog even in an environment with ACBLIB management of ACBs.

4) Catalog not enabled - ACBLIB used - ACBLIB management of ACBs

The following conditions apply to this scenario:
   - IMS environment is not catalog-enabled
   - IMS environment uses ACB library
   - ACBLIB management of ACBs
Environment characteristics:

- DBDs are managed in DBDLIBs.
- PSBs are managed in PSBLIBs.
- ACBs are managed in ACBLIB.

ACBLIBs contain pre-processed DBDs and PSBs.

Pre-processing meaning that an IMS utility has already performed some validation and outputs the DBDs and PSBs into a format where the IMS online system only needs to load them in order to use them.

- Each IMS environment using ACBLIB typically has:
  - A staging ACBLIB
  - An inactive ACBLIB
  - An active ACBLIB

- Typically there is just one staging ACBLIB, one inactive ACBLIB, and one active ACBLIB per IMS environment.

However, some environments have more than one of each type of ACBLIB.

IMS catalog management business scenarios

IMS catalog analysis and validation functions allow you to:

- Copy objects between the IMS catalog on one IMS system to the IMS catalog on another IMS system.
- Compare versions of DBD and PSB resources between the IMS catalog and the IMS ACB library.
- Generate reports to help analyze the databases and applications defined in the IMS catalog.
- Perform space utilization analysis and view the number of objects and instances in the IMS catalog.
- Perform impact analysis when either 1) planning for the IMS catalog or 2) adding a large number of objects to the IMS catalog.
- Include and update individual (or bulk) IMS database definitions (DBD) with schema from COBOL or PL/I copybooks during the import process to the IMS catalog.

Adding or updating schema to individual databases or in bulk can be accomplished either interactively or schedule through a batch process.
Chapter 17. IMS catalog space analysis and summary reports

IMS catalog database analysis and validation functions allow you to view the number of objects and instances in the IMS catalog, determine IMS catalog database space utilization status, and perform impact analysis for both initial IMS catalog planning and the addition of large number of objects to the existing IMS catalog.

IMS catalog analysis and validation provides three report views:
1. IMS catalog database space analysis
   - IMS catalog environment
   - IMS catalog database space usage
   - Program and database instances in IMS catalog database
2. DBD and PSB summary reports
3. DBD and PSB detail reports

Note: The IMSID selection list only shows IMS subsystems that have the IMS catalog enabled and populated.

Note: When the IMS control region is active in a z/OS LPAR where the IMS Tools Base Distributed Access Infrastructure (DAI) server is not running, the IMSID must be in a data sharing group.

IMS catalog analysis issues DL/I calls to the IMS catalog database. Therefore, data sharing must be configured for the IMS systems so that they can communicate with the LPAR where the DAI server is running.

Use the IRLM to configure data sharing for the IMS systems. Then create an IMS data sharing group for IMS Administration Tool and register the IMS systems to the group. The IRLM of one of the IMS systems in the group must be defined to the LPAR where the DAI server is running.

Analysis and report terminology

For DBD and PSB analysis and report details, DBDs and PSBs are known as objects.

Objects can be further distinguished as resources and instances:
- **Resource** refers to a DBD object that is identified by a DBD name, or a PSB object that identified by a PSB name.
- **Instance** refers to a specific time/date occurrence of a resource.
  
  For example, a PSB resource can have multiple instances with different time-stamps.

Space analysis: IMS catalog environment

The IMS catalog environment report displays the following information:
- IMS ID
- IMS version
- Managed ACBs
  
  **ACBLIB**
  
  ACBs are managed by ACB libraries

  **IMS catalog**
  
  ACBs are managed by IMS catalog (directory)

- DFSDF member
DFSDFxxx member name in IMS PROCLIB

- IMS catalog PHIDAM database name
- Number of PHIDAM partitions
- Data set organization (PHIDAM partitions)

**Space analysis: IMS catalog database space usage**

The IMS catalog database space usage report displays the following information:

- IMS catalog PHIDAM database name
- PHIDAM partition name
- Data set group
- Data set name
- Allocated extents
  - The number of allocated extents of the database data set.
- IMS size limit
  - Maximum data set size that is limited by IMS.
- Allocated space (Bytes)
  - Allocated space size of the database data set.
- Used space (Bytes)
  - Used space size that is high used RBA (Relative Bytes Address) of the database data set. It is the place of end-of-file.
- IMS limit used (%)
  - Ratio of used space to IMS space limit.
- Allocated space used (%)
  - Ratio of used space to allocated space.

**Space analysis: Program and database instances in IMS catalog database - Estimated sizes**

The Program and database instances in IMS catalog database report displays the following information:

- Program (PSB) instances
  - The number of PSB instances in the IMS catalog database.
- Database (DBD) instances
  - The number of DBD instances in the IMS catalog database
- Total
  - The number of PSB and DBD instances in the IMS catalog database.
- Estimated average size
  - Estimated average size of PSB and DBD instances.

This estimation does not take the extra time to read the IMS catalog database directly. Therefore, IMS segment data and free space information is not analyzed.

As the result, the estimated size value can be larger than the average size value because the estimated average size value includes the IMS free space.
Space analysis: Program and database instances in IMS catalog database - Calculated sizes

The average sizes of DBD and PSB instances are calculated by directly reading the IMS catalog database. IMS free spaces are excluded from the average size values. Therefore, the average size values are more accurate than the estimated average size values.

- Number of PSB instances
- Calculated average size of PSB instances
- Number of DBD instances
- Calculated average size of DBD instances
- Total number of PSB and DBD instances
- Calculated average size of PSB and DBD instances

PSB summary report

The PSB summary report displays the following information:

- All PSB instances
  - Number of PSB instances
  - Average size of PSB instances
- Obsolete PSB instances
  - Number of obsolete PSB instances
  - An obsolete instance is not used by IMS.
    - For the details of obsolete instances, refer an explanation of status in PSB List.
  - Average size of obsolete PSB instances
- Number of PSB resources having multiple instances
  - Number of PSB resources
  - Number of PSB resources having multiple instances
  - Average number of instances per PSB resource
  - Highest number of instances within one PSB resource

Show full PSB list (detail report)

The Show full PSB list (detail) report displays the following information:

- PSB resource name
- Generation date and time
- Size of PSB instance in IMS catalog database
- Status - IMS catalog managed ACBs (application control blocks)

**Active**

- The PSB instance is active.
  - The time-stamp is equivalent to the active object in an IMS directory active data set.

**Staging**

- The PSB instance is pending.
  - The time-stamp is equivalent to the pending object in an IMS directory staging data set.

"Blank"

- The PSB instance is obsolete and it is not used by IMS. The following conditions can apply:
  - The instance has an old time-stamp.
  - The instance has a newer time-stamp than Active, but it is not in Staging.
If a PSB resource is not in an IMS directory active or staging data set, "blank" is set for every instance of the PSB resource.

• Status - ACBLIB managed ACBs (application control blocks)

  **Active**
  The PSB instance is active.
  When Online Change (OLC) is enabled, the time-stamp is equivalent to the PSB member in the active ACB libraries.
  When OLC is not enabled, the time-stamp is equivalent to the PSB member in the ACB libraries.

  **Inactive**
  The PSB instance is inactive.
  The time-stamp is equivalent to the PSB member in the inactive ACB libraries.
  Inactive is displayed only when OLC is enabled.

  **Staging**
  The PSB instance is in the staging ACB library.
  The time-stamp is equivalent to the PSB member in the staging ACB libraries.
  Staging is displayed only when OLC is enabled.

  **"Blank"**
  The PSB instance is obsolete and it is not used by IMS. The following conditions can apply:
  - The instance has an old time-stamp.
  - The instance has a newer time-stamp than Active, but it is not Inactive or Staging.
  - If a PSB resource is not in the ACB libraries, "blank" is set for every instance of the PSB resource.

**DBD summary report**
The DBD summary report displays the following information:

• All DBD instances
  - Number of DBD instances
  - Average size of DBD instances

• Obsolete DBD instances
  - Number of obsolete DBD instances
    An obsolete instance is not used by IMS.
    For the details of obsolete instances, refer an explanation of status in DBD List.
  - Average size of obsolete DBD instances

• Number of DBD resources having multiple instances
  - Number of DBD resources
  - Number of DBD resources having multiple instances
  - Average number of instances per DBD resource
  - Highest number of instances within one DBD resource

• DBD instances not pointed to by PSBs
  - Number of DBD instances not pointed to by PSBs
  - Average Size (Bytes)

**Show full DBD list (detail report)**
The Show full DBD list (detail) report displays the following information:
- DBD resource name
- Database (DB) version
- Generation date and time
- Size of DBD instance in IMS catalog database
- Status - IMS catalog managed ACBs (application control blocks)

**Active**
The DBD instance is active.
The time-stamp is equivalent to the active object in an IMS directory active data set.

**Staging**
The DBD instance is pending.
The time-stamp is equivalent to the pending object in an IMS directory staging data set.

**Usable**
The most recent time-stamp DBD instance within the old DB Version.
The DBD instance can be used by IMS if the DB Version is specified by a PSB or an application program.

**Logical**
This is a logical DBD and the latest time-stamp instance.
IMS does not store the logical DBD block in an IMS directory active or staging data set.
For this reason, (Logical) is set instead of Active or Staging.

"Blank"
The DBD instance is obsolete and it is not used by IMS. The following conditions can apply:
- The instance has an old time-stamp.
- The instance has a newer time-stamp than Active, but it is not Staging.
- If a DBD resource is not in an IMS directory active or staging data set, "blank" is set for every instance of the DBD resource (except for the logical DBD).

- Status - ACBLIB managed ACBs (application control blocks)

**Active**
The DBD instance is active.
When Online Change (OLC) is enabled, the time-stamp is equivalent to the DBD member in the active ACB libraries.
When OLC is not enabled, the time-stamp is equivalent to the DBD member in the ACB libraries.

**Inactive**
The DBD instance is inactive.
The time-stamp is equivalent to the DBD member in the inactive ACB libraries.
Inactive is displayed only when OLC is enabled.

**Staging**
The DBD instance is in the staging ACB library.
The time-stamp is equivalent to the DBD member in the staging ACB libraries.
Staging is displayed only when OLC is enabled.

**Usable**
The most recent time-stamp DBD instance within the old DB Version.
The DBD instance can be used by IMS if the DB Version is specified by a PSB or an application program.
(Logical)
This is a logical DBD.
IMS does not store the logical DBD block in IMS ACB libraries.
For this reason, (Logical) is set instead of Active, Inactive, or Staging.
(Logical) is set on the most recent time-stamp instance of the logical DBD.

(GSAM)
This is a GSAM DBD.
IMS does not store the GSAM DBD block in IMS ACB libraries.
For this reason, (GSAM) is set instead of Active, Inactive, or Staging.
(GSAM) is set on the most recent time-stamp instance of the GSAM DBD.

"Blank"
The DBD instance is obsolete and it is not used by IMS. The following conditions can apply:
- The instance has an old time-stamp.
- The instance has a newer time-stamp than Active, but it is not Inactive or Staging.
- If a DBD resource is not in the ACB libraries, "blank" is set for every instance of the DBD resource.

- Number of PSB Resources Referring this DBD
The number of PSBs that reference this DBD.
- For the PSB resources, only active instances are calculated.
- For the DBD resources, active or usable DBD instances are calculated.
  For GSAM and Logical DBDs, instances flagged with (GSAM) or (Logical) are calculated.
- Obsolete, inactive, and staging DBD or PSB instances are out of scope for this calculation.
  These instances are not used by IMS at this point.
- When DB Versioning is enabled, the following IMS definitions are evaluated for this calculation:
  - DBLEVEL=BASE or CURRENT in the DFSDFxxx member of the IMS PROCLIB
  - DBLEVEL=BASE or CURRENT in the PSB
  - DBVER=n in the PSB

  Note: The INIT VERSION call in an IMS application program is not evaluated.
Chapter 18. DBD/PSB compare

The compare function of IMS Administration Tool allows you to compare versions of DBD and PSB resources in the IMS directory data sets and the IMS ACB library.

Compare business scenarios

You can use the compare function to:

• Confirm consistency of resources in the IMS directory to resources in the ACB library. The IMS directory and the ACB library to compare can be for different IMS subsystems. For example, in a data sharing environment consisting of two IMS subsystems, you can compare the IMS directory for an IMS subsystem to the ACB library used by another IMS subsystem.

• Identify and review differences in resources between the IMS directory active data sets and the IMS directory staging data set.

Here are some common business scenarios:

• After migrating from ACBLIB-managed ACBs to IMS catalog-managed ACBs (IMS management of ACBs), use the compare function to verify that the IMS directory is successfully populated from the ACB library.

• When migrating from ACBLIB-managed ACBs to IMS catalog-managed ACBs in a data sharing environment where one IMS subsystem uses ACBLIB-managed ACBs and the other IMS subsystem uses IMS catalog-managed ACBs, the resources in the ACB library and the IMS directory must be in sync. Use the compare function to ensure that the consistency is maintained during migration.

• If IMS catalog-managed ACBs are used, use the compare function before activating changes to resources. The compare function reports differences between the resources in the IMS directory active data sets and the IMS directory staging data set and you can ensure that the changes that will be activated are what you intended.

Topics:

• “DBD/PSB compare criteria selection reference” on page 117
• “DBD/PSB compare results reference” on page 120

DBD/PSB compare criteria selection reference

The compare function of IMS Administration Tool allows you to compare versions of DBD and PSB resources between the IMS catalog (directory) and the IMS ACB library.

For comparison selection, DBDs and PSBs are known as objects.

Objects can be further distinguished as resources and instances:

• Resource refers to a DBD object that is identified by a DBD name, or a PSB object that identified by a PSB name.

• Instance refers to a specific time/date occurrence of a resource.

For example, a PSB resource can have multiple instances with different time-stamps.
### Table 24. Compare criteria selection

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comparison Scope</strong></td>
<td>Options for comparison:</td>
</tr>
<tr>
<td></td>
<td>• Compare a single resource (Compare)</td>
</tr>
<tr>
<td></td>
<td>• Compare multiple resources (Compare All)</td>
</tr>
<tr>
<td></td>
<td>You can choose one more DBDs or PSBs to compare. Resources can be selected using filters.</td>
</tr>
<tr>
<td><strong>Resource Type</strong></td>
<td>Resource types include:</td>
</tr>
<tr>
<td></td>
<td>• DBD</td>
</tr>
<tr>
<td></td>
<td>• PSB</td>
</tr>
<tr>
<td></td>
<td>You can choose one more DBDs or PSBs to compare. Resources can be selected using filters.</td>
</tr>
</tbody>
</table>

#### IMS Directory Resource Criteria

<table>
<thead>
<tr>
<th>IMSID (of IMS Directory)</th>
<th>The IMSIDs in the selection list are catalog-managed ACBs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Catalog-managed ACBs means the IMS catalog is enabled, ACBs are managed with the IMS catalog, and resources are stored in the IMS directory.</td>
</tr>
<tr>
<td>Resource Name</td>
<td>You can choose one more DBDs or PSBs to compare.</td>
</tr>
<tr>
<td></td>
<td>Select a single resource from the IMS directory for single resource comparison.</td>
</tr>
<tr>
<td></td>
<td>Select multiple resources from the IMS directory for multiple resource comparisons.</td>
</tr>
<tr>
<td>Resource (Instance)</td>
<td>The selected DBD or PSB resource instance status can be:</td>
</tr>
<tr>
<td>Status (Data and Time Instance)</td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>Active instances are stored in the IMS directory active data sets.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>Pending instances are stored in the IMS directory staging data set.</td>
</tr>
</tbody>
</table>

#### ACB Library Resource Criteria

<table>
<thead>
<tr>
<th>IMSID (of ACB Library)</th>
<th>The IMSIDs in the selection list satisfies the one of the following conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• IMS catalog is not enabled.</td>
</tr>
<tr>
<td></td>
<td>• IMS catalog is enabled and ACBs are managed with ACB libraries.</td>
</tr>
<tr>
<td></td>
<td>You can alternatively specify another ACBLIB library data set.</td>
</tr>
<tr>
<td>Resource Name</td>
<td>You can choose one more DBDs or PSBs to compare.</td>
</tr>
<tr>
<td></td>
<td>Select a single resource from the ACB library for single resource comparison.</td>
</tr>
<tr>
<td></td>
<td>Select multiple resources from the ACB library for multiple resource comparisons.</td>
</tr>
</tbody>
</table>
### Table 24. Compare criteria selection (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource (Instance) Status</strong></td>
<td>When OLC is enabled, the selected DBD or PSB resource instance status can be:&lt;br&gt;• Active&lt;br&gt;Active instances are in the active ACB libraries.&lt;br&gt;• Inactive&lt;br&gt;Inactive instances are in the inactive ACB libraries.&lt;br&gt;• Staging&lt;br&gt;Staging instances are in the staging ACB libraries.</td>
</tr>
</tbody>
</table>
| **Comparison Options**                      | Compare options to ignore certain comparison differences:<br><br><strong>Ignore VERSION= in DBD</strong><br>Ignore the differences of VERSION= parameter in the DBD statement.<br><br><strong>Note:</strong> VERSION= parameter is different from DBVER= parameter. DBVER is the version number of the database versioning and is always compared.<br><br><strong>Ignore METADATA in DBD and PSB</strong><br>Ignore the metadata differences in DBD and PSB. The metadata is as follows:<br><br><strong>DBD</strong><br>• DFSMARSH, DFSMAP, DFSCASE statements<br>Includes the statements and any parameters on the statements.<br>• FIELD statements<br>CASENAME=, DATATYPE=, DEPENDSON=, EXTERNALNAME=, MINOCCURS=, MAXOCCURS=, MAXBYTES=, PARENT=, REDEFINES=, RELSTART=, REMARKS=, STARTAFTER=<br>• Other statements<br>ENCODING=, EXTERNALNAME=, REMARKS=<br><br><strong>PSB</strong><br>EXTERNALNAME=, REMARKS=<br><br><strong>Ignore PCB Name</strong><br>Ignore the differences for the NAME= parameter or the label in the PSBGEN statement of the PSB.<br><br><strong>Ignore RMNAME= in DBD</strong><br>Ignore the differences for the RMNAME= parameter in the DBD statement.<br><br><strong>Ignore Segment/Edit Compression Exit Routine Name</strong><br>Ignore the differences for the COMPRTN= parameter in the SEGM statement of the DBD.<br><br><strong>Ignore KEYLEN of PCB</strong><br>Ignore KEYLEN= in the PCB statement of the PSB.<br><br><strong>Ignore DEDB AREA Statement</strong><br>Ignore AREA statements in the DBD and any parameters on the AREA statements.
A compare report contains results from the comparison of two instances.

The source of DBD or PSB in the IMS directory is taken as the basis for the comparisons.

An initial comparison results report provides a summary analysis.

You can also access a detailed results report with side-by-side comparison.

### Table 25. Compare results

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare Results</td>
<td>The initial comparison results report indicates one of the following analysis categories:</td>
</tr>
<tr>
<td></td>
<td><strong>Identical</strong></td>
</tr>
<tr>
<td></td>
<td>The resource instances in the IMS directory and in the ACB library are identical.</td>
</tr>
<tr>
<td></td>
<td><strong>Different</strong></td>
</tr>
<tr>
<td></td>
<td>The resource instances in the IMS directory and the ACB library are different.</td>
</tr>
<tr>
<td></td>
<td><strong>Unmatched</strong></td>
</tr>
<tr>
<td></td>
<td>The resource instance exists in the IMS directory or the ACB library, but not both.</td>
</tr>
</tbody>
</table>

### Comparison Results Detail

<table>
<thead>
<tr>
<th>Number of Different Statements</th>
<th>The top header section of the comparison report contains the summary information about statements which were inserted, deleted, or changed.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INSERTED</strong></td>
<td>The number of statements which were found only in the DBDs or the PSBs in the ACB library.</td>
</tr>
<tr>
<td><strong>DELETED</strong></td>
<td>The number of statements which were found only in the DBDs or the PSBs in IMS directory.</td>
</tr>
<tr>
<td><strong>CHANGED</strong></td>
<td>The number of statements which were found in both the DBDs or the PSBs in the IMS directory and the ACB library, but were detected to be different.</td>
</tr>
</tbody>
</table>

Example:

<table>
<thead>
<tr>
<th>NUMBER OF DIFFERENT STATEMENTS</th>
<th>INSERTED</th>
<th>DELETED</th>
<th>CHANGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSERTED</td>
<td>44</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>
Table 25. Compare results (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| IMS Environment and DBD or PSB Profile | The second header section of the comparison report contains the summary of the IMS environment and the compared instances of DBD or PSB resources:  
  • IMSID  
  • IMS directory high level qualifier and ACB library data set name  
  • Status of the selected resource instance  
  • DBD or PSB resource name  
  • Time stamp when the resource instance was generated  
  • IMS Version when the resource instance was generated  
Example:  
  IMSID : IFB8                     |
  CATALOG HLQ :                  |
  IMS.IFB8.DFSCD000            |
  STATUS        : ACTIVE           |
  RESOURCE      : DBFSAMD4         |
  GENERATED     : 06/12/2019 19.41 |
  GENERATED IMS : 1510            |
| Line-by-line Comparison Result | The detail section of the comparison report shows a side-by-side and line-by-line display of the similarities and differences between the DBD or PSB sources.  
The following characters in the CHK column of the report indicate the type of difference found in the DBD or PSB source between the IMS directory and the ACB library:  
I  
  A statement is inserted into the DBD or PSB in the ACB library.  
D  
  A statement is deleted from the DBD or PSB in the IMS directory.  
C  
  A statement in the DBD or PSB in the IMS directory is different from that in the ACB library.  
  An asterisk (*) is shown on the row of each data that is determined to be different.  
The SOURCE LINES column shows the IMS DBDGEN or PSBGEN utility control statements that were decoded from the DBD or PSB instance in the IMS directory or the ACB library.  

Chapter 18. DBD/PSB compare 121
Chapter 19. Export objects and import objects

The export objects function, in combination with the import objects function, allows you to easily bulk copy DBD and PSB resource definitions from one IMS system to another IMS system, regardless of whether both systems are using the IMS catalog or not.

The export objects function extracts IMS ACB control blocks of DBDs and PSBs from ACB libraries or IMS directory, decodes the control blocks into readable DBD and PSB sources codes, and stores them in the export data set. An export data set is an intermediate data set generated by the export objects function and used by the import objects function.

The import objects function reads the export data set and calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if IMS catalog is defined in the IMS system, the IMS catalog populate utility (DFS3PU00). If the Use COPYBOOK option is selected, the import objects function also performs copybook import before DBDGEN.

By using the export objects function and the import objects function, you can transfer DBDs and PSBs from one IMS subsystem to another IMS subsystem.

Export/import business scenarios

Because these two functions use DBD and PSB source codes as intermediate data, and DBDGEN, PSBGEN, and ACBGEN are done in the target system environment, the functions allow to maintain different IMS environments for the source system and the target system. For example, you can transfer DBDs and PSBs to a target system that uses a different release of IMS, or transfer DBDs and PSBs between two systems that manage ACBs differently (one with ACBLIB and another by IMS). You can also use these functions to manage objects in a single IMS system. For example, you can export and import objects when you migrate to a new release of IMS, or when you want to import copybooks to DBDs and PSBs and replace DBDs and PSBs in the IMS system.

Typical business scenarios can include:

- Build a test IMS subsystem.
- Synchronize two IMS environments.
- Create a mirror-image IMS subsystem from an existing IMS subsystem.
- Move the IMS subsystem to a different ACB management environment, for example from ACBLIB-managed to IMS-managed (ACBs managed with IMS directory).
- Restore the IMS subsystem from IMS managed ACBs (ACBs managed with IMS directory) to ACBLIB.
- Import COBOL or PL/I copybooks in bulk to the IMS catalog to accommodate a change of application programs and make the information available to Java applications.

Topics:

- “Export objects reference” on page 123
- “Import objects reference” on page 125

Export objects reference

The export objects function extracts IMS control blocks (DBDs and PSBs) from either the ACB library or IMS directory depending on how IMS is configured. Then it decodes the extracted control blocks to readable DBD or PSB source code enabling you to import DBDs and PSBs with the import objects function.

The ACB library and IMS directory are automatically determined by IMS Administration Tool from the parameters and the PROCLIB libraries of the IMS system.
The following options allow you to set up the process of exporting selected resource objects to export data sets. The export objects function generates a JCL job based on the options you select. You submit the JCL job to export objects to the export data set.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Object Selection Criteria</strong></td>
<td></td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem to export from.</td>
</tr>
<tr>
<td>Export Objects</td>
<td>Specification of resource types to export (and import):</td>
</tr>
<tr>
<td></td>
<td>• DBD</td>
</tr>
<tr>
<td></td>
<td>• PSB</td>
</tr>
<tr>
<td></td>
<td>• Both (DBD and PSB)</td>
</tr>
<tr>
<td>DBD and PSB Filters</td>
<td>Specify a wildcard expression to control the number of resource objects that display.</td>
</tr>
<tr>
<td><strong>Export Object Options</strong></td>
<td></td>
</tr>
<tr>
<td>Export from and Object Status</td>
<td>Specify the location and the status of the objects to export from.</td>
</tr>
<tr>
<td></td>
<td>• If the IMS management of ACBs is not enabled, select ACB library.</td>
</tr>
<tr>
<td></td>
<td>• If the IMS management of ACBs is enabled, you can select from ACB library or IMS directory. To select ACB library, the IMSACB DD statement must be present in the IMS control region JCL or procedure.</td>
</tr>
<tr>
<td></td>
<td><strong>ACB library</strong></td>
</tr>
<tr>
<td></td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>Active ACB library.</td>
</tr>
<tr>
<td></td>
<td>• Inactive</td>
</tr>
<tr>
<td></td>
<td>Inactive ACB library.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>Staging ACB library.</td>
</tr>
<tr>
<td></td>
<td><strong>IMS directory</strong></td>
</tr>
<tr>
<td></td>
<td>• Active</td>
</tr>
<tr>
<td></td>
<td>IMS directory data sets.</td>
</tr>
<tr>
<td></td>
<td>• Staging</td>
</tr>
<tr>
<td></td>
<td>IMS directory staging data set.</td>
</tr>
<tr>
<td>Prefix of Export Data Sets</td>
<td>The high-level qualifier prefix of the output data sets that are used for the export process. (35 character maximum)</td>
</tr>
</tbody>
</table>
Import objects reference

The import objects function calls the DBDGEN, PSBGEN, ACBGEN utilities, and, if IMS catalog is defined in the IMS system, the IMS catalog populate utility (DFS3PU00). If the Use COPYBOOK option is selected, the import objects function also performs copybook import before DBDGEN.

The import objects function requires an export data set as input. The export data set must contain DBD and PSB source codes generated by the export objects function.

The DBDLIB, PSBLIB, ACBLIB, IMS directory, and IMS catalog are automatically determined by IMS Administration Tool from the parameters and the PROCLIB libraries of the IMS system.

**Requirement:** When the IMS management of ACBs is enabled, the IMS system does not require ACB libraries. However, you must create an ACB library and either allocate it to the IMS control region with DD name IMSACB or create a DFSMDA member for the IMSACB.

The following options allow you to set up the process of importing selected resource objects from the export data set to a new target destination. The import objects function generates a JCL job, ATY@OBJU, based on the options you select. For more information about ATY@OBJU, see Chapter 15, “DBD and PSB update (ATY@OBJU) JCL,” on page 99.

<table>
<thead>
<tr>
<th>Table 27. Importing objects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option</strong></td>
</tr>
<tr>
<td><strong>Object Selection Criteria</strong></td>
</tr>
<tr>
<td>IMSID</td>
</tr>
<tr>
<td>Import Objects</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>DBD and PSB Filters</td>
</tr>
<tr>
<td>Option</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Initial Load</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Overwrite Existing Objects</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Prefix of Export Data Sets</td>
</tr>
<tr>
<td>Option</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>Backup Existing Objects</strong></td>
</tr>
<tr>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>No</strong></td>
</tr>
<tr>
<td><strong>Prefix of Backup Data Sets</strong></td>
</tr>
<tr>
<td><strong>Use COPYBOOK</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>COPYBOOK Data Sets</strong></td>
</tr>
<tr>
<td><strong>COPYBOOK Cross Reference (XREF) Data Sets</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Option</strong></td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>COBOL or PL/I COPYBOOK Data Sets</td>
</tr>
</tbody>
</table>

**JCL Output Options**

<table>
<thead>
<tr>
<th><strong>JCL Output Data Set</strong></th>
<th>The name of the partitioned data set where the generated import JCL is stored. The data set must be pre-allocated before you can generate the JCL.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Member</strong></td>
<td>The name of the member in the partitioned data set where the generated import JCL is stored.</td>
</tr>
<tr>
<td><strong>Job Statements</strong></td>
<td>Specification of the JOB statement of the import JCL.</td>
</tr>
<tr>
<td><strong>Allocate Data Set</strong></td>
<td>Allocate the data set where the generated import JCL is stored.</td>
</tr>
</tbody>
</table>

**Tip:** If you want to change assembler options used for DBDGEN or PSBGEN, you can do so by describing the options in a sequential data set (PS) and registering the data set to DDNAME variable ASMAOPT.
Part 6. Run IMS utilities (JCL generation)

IMS Administration Tool helps you automate the process of generating the JCL required to run IMS utilities provided by IMS Tools products that are registered to participate in the IMS Administration Tool environment.

The Run IMS utilities feature helps automate the JCL generation process and enables you to set up recurring utility jobs for conditional and routine IMS maintenance tasks.

Topics:

• Chapter 20, “Run IMS Utilities overview and process flow,” on page 131
• Chapter 21, “Object profile overview and reference,” on page 135
• Chapter 22, “Utility profile overview and reference,” on page 143
• Chapter 23, “Job profiles overview and reference,” on page 147
Chapter 20. Run IMS Utilities overview and process flow

The Run IMS Utilities feature of IMS Administration Tool provides a detailed and flexible mechanism to generate single master JCL that you can run to perform simple and complex IMS maintenance tasks.

Topics:
- “Process summary for product registration” on page 131
- “Process summary for JCL generation” on page 131
- “JCL generation process flow” on page 134

Process summary for product registration

IMS Tools products that participate in the IMS environment with IMS Administration Tool are required to register information to the central IMS Tools Knowledge Base repository.

This product information is used by the IMS Administration Tool "Run IMS utilities" feature to help automate and support the JCL generation process.

Product registration includes:
- Register to the IMS Tools Knowledge Base repository for general data storage.
- Register to the IMS Tools Knowledge Base report service for storage of generated product reports.
- Register to the IMS Tools Knowledge Base product registry:
  - Product version and release
  - Product library names and locations
  - Initial assignment of product "scope=GLOBAL"
- Register specific functions provided by the IMS Tool products.
- Register templates for each function that represent the JCL code used to perform that function.
  Initial assignment of template "scope=GLOBAL".
- Register a list of variable expressions used in the template code that are later populated with values appropriate to the IMS environment.
  Initial assignment of variable "scope=GLOBAL".
- Enhanced initial setup and customization of IMS Administration Tool through IMS Tools Setup.

Process summary for JCL generation

The JCL generation process used to run IMS maintenance tasks is dependent on the product registration information gathered from IMS Tools that participate in the IMS Administration Tool environment.

To support the Run IMS Utilities feature of IMS Administration Tool, IMS Tools product functions are registered and made available to the JCL generation process.

The code to run a specific function is provided in the form of a template. The template is JCL code and includes variable expressions that are populated with appropriate values before and during the final build process of an actual job JCL.

Run IMS Utilities uses the registered functions, templates, and variables to create three types of configuration files that are used to build custom JCL jobs: object profiles, utility profiles, and job profiles.
1. Create an object profile that identifies the specific resource or resources in the IMS environment where the master JCL job for the maintenance task is run.

IMS Administration Tool runs in an IMS environment, identified by an IMSID/Group designation.

The IMS environment is made up of one or more databases and/or database groups.

Example IMS resource objects: single databases, PSBs, DBRC groups (CAGRP, DBDSGRP, RECOVGRP, DBGRP)

2. Create a utility profile that represents a primary IMS maintenance task, and identifies the IMS Tools functions required for the task, plus the sequence in which the functions need to be performed.

The utility profile defines a primary database maintenance task by specifying the required functions in the correct sequence.

Example utility specification:

- Primary task: Database reorganization
- Required functions and sequence:
  - a. Unload a full function database
  - b. Reload a full function database
  - c. Build indexes for a full function database
  - d. Pointer check a full function database
  - e. Prefix resolution and update
  - f. ...

3. Create a job profile that combines a utility profile and an object profile to build a single JCL job that can perform a primary database maintenance task for a specific IMS environment.

The job profile combines the function templates specified by that utility profile into a single master JCL job. The master JCL code is a correctly sequenced concatenation of the individual function template code provided by the utility profile.

The JCL job is applicable to an IMS environment that is defined by the object profile.

The templates for each function are selected by the scope level (GLOBAL, SYSTEM, IMSID, or PROFILE) that is appropriate for this task.

Example job profile task: Run database reorganization on PSB1

- Object profile: PSB1
- Utility profile: Database reorganization

4. During the master JCL build process, variable expressions in the templates are populated with appropriate values.

There are two types of variables:

- DDNAME
- Keyword

Values are selected by the scope level (GLOBAL, SYSTEM, IMSID) that is appropriate for this task.

When creating the job profile, any variable can be further customized to contain a value that is appropriate only for this specific job profile (scope=PROFILE).

Additionally, some variables and values are dynamically provided during the JCL build process. Sources for these dynamic variables include:

- Environment (z/OS system information)
  - Examples: SORTLIB, SYSMAC, USERID, UNIT
- Registry (IMS Tools product information)
- **Discovery** (IMS system information)
  Examples: DBDLIB, PROCLIB, RECON1

5. Build a master z/OS batch job for this job profile containing the JCL to run the correct sequence of functions specified in the utility profile (example: Database reorganization).

6. The resulting job can be run immediately on the resource object specified by the object profile (example: PSB1), or saved and inserted into a job scheduler.
The following diagram illustrates the relationship between the initial IMS Tools product registration process and how functions, templates, and variables are used to create object, utility, and job profiles for JCL generation.

**Figure 12. JCL generation process flow**
Chapter 21. Object profile overview and reference

An object profile is a configuration file that is used to define and logically group IMS resources (objects) together so that a custom JCL job can be generated and run specifically for that profile.

Object profile overview

A job profile combines the specifications in an object profile and a utility profile to generate a single JCL job that performs a primary database maintenance task for a specific IMS resource.

- The utility profile defines the primary database maintenance task (utility), the individual IMS Tools functions required for that task, and the sequence in which the functions are performed.
- The object profile defines the specific IMS resources (objects) where the generated JCL job is run.

Examples of IMS resources that can be selected as objects in an object profile include:

- Databases (DBDs)
- Program specification blocks (PSBs)
- DBRC groups:
  - CAGRP
  - DBDSGRP
  - RECOVGRP
  - DBGPR
  - ALL DBRC Groups

Business scenarios for object profiles
The following business scenarios provide examples for creating object profiles:

- The object profile contains just a single database.
  
  Object profile name suggestion: The same name as the primary database.

- The object profile contains a single DBRC group.
  
  A DBRC group is a grouping of databases defined in the RECON.
  
  Object profile name suggestion: A name matching the DBRC group name, or a combination of DBRC group name and DBRC group type.

- The object profile relates to an application.
  
  There are several ways to define an application in an object profile, such as multiple DBDs, DBD wildcarding, and PSB.
  
  Object profile name suggestion: The user-defined application name or a name matching closely to the PSB name.

Topics:

- “Manage Object Profiles reference” on page 136
- “Create, model, update object profile reference” on page 137
The Manage Object Profiles interface provides the options to manage existing object profiles and create new object profiles in your IMS Administration Tool environment.

Table 28. Manage Object Profiles

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Filters</td>
<td>All object profiles in the IMS Administration Tool environment are initially listed. You can control the number of object profiles that display by using the following filter criteria:</td>
</tr>
<tr>
<td><strong>IMSID Filter</strong></td>
<td>Specify an IMSID or IMSID wildcard expression to control the number of object profiles that display. Examples: IMS1, IM*, *</td>
</tr>
<tr>
<td><strong>Creator Filter</strong></td>
<td>Specify an object profile creator name or creator name wildcard expression to control the number of object profiles that display. Example: USER*</td>
</tr>
<tr>
<td><strong>Profile Filter</strong></td>
<td>Specify an object profile name or name wildcard expression to control the number of object profiles that display. Example: PROFI*</td>
</tr>
<tr>
<td>Create</td>
<td>Create a new object profile. An object profile is created for a single IMS environment (IMSID) and includes specifications for one or more resources (objects) from that environment.</td>
</tr>
<tr>
<td>Sort</td>
<td>Sort the object profile list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-6) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).</td>
</tr>
<tr>
<td>D (delete)</td>
<td>Delete an existing object profile. A Delete Confirmation window requests confirmation of the action. The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the object profile creator.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Create (define) a new object profile based on (modeled after) the attributes of the selected object profile. The IMSID Selection List allows you to apply this additional object profile to another IMS environment. A double asterisk (**) preceding the modeled name in the Object Profile Options view indicates the need to change the profile name. A different profile name is required if the new profile is being created for the same IMSID as the original profile.</td>
</tr>
</tbody>
</table>
### Table 28. Manage Object Profiles (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U (update)</td>
<td>Update an existing object profile. The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the object profile creator.</td>
</tr>
<tr>
<td>V (view)</td>
<td>View an existing object profile. The profile must have the &quot;Update&quot; or &quot;View&quot; access control (Share Option) set to allow this action for users other than the object profile creator.</td>
</tr>
</tbody>
</table>

### Create, model, update object profile reference

The Manage Object Profiles interface provides the options to create, model, and update object profiles in your IMS Administration Tool environment.

### Table 29. Create, model, update object profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>The TSO user ID (owner) of the object profile. This field is pre-populated with the user of the current session.</td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem where this object profile applies. This field is populated with the IMSID previously selected for this object profile.</td>
</tr>
<tr>
<td>Profile Name</td>
<td>Any user-defined name for the object profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Description</td>
<td>A user-defined phrase to describe the object profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Share Option</td>
<td>Access control setting for the management of this object profile by users other than the profile creator. <strong>Update</strong> Other users can edit (update) and make changes to this object profile. <strong>View</strong> Other users can only view the object profile details. No changes to the object profile are allowed by users with this access control. <strong>None</strong> Other users have no edit or view access to this object profile.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Select One Object Type</td>
<td>An object profile can include any combination of valid IMS resources (objects). However, you must add and configure each object type to the object profile one at a time.</td>
</tr>
<tr>
<td></td>
<td>When you add an object type, you continue the configuration by creating the rules or criteria by which all or some of these objects are selected for use in the object profile (Define DBD/PSB Object Rules).</td>
</tr>
<tr>
<td></td>
<td>Valid object types:</td>
</tr>
<tr>
<td></td>
<td>• DBDs (DB)</td>
</tr>
<tr>
<td></td>
<td>• PSBs (PS)</td>
</tr>
<tr>
<td></td>
<td>• DBRC groups:</td>
</tr>
<tr>
<td></td>
<td>– CAGRPS (CG)</td>
</tr>
<tr>
<td></td>
<td>– DBDSGRPS (CD)</td>
</tr>
<tr>
<td></td>
<td>– RECOVGRPS (CR)</td>
</tr>
<tr>
<td></td>
<td>– DBGRPS (CB)</td>
</tr>
<tr>
<td></td>
<td>– All DBRC Groups (DR)</td>
</tr>
</tbody>
</table>
Table 29. Create, model, update object profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define DBD Object Rules</td>
<td>Rules for the DBD object type are filter criteria that are used to specify one or more database objects to include in the object profile:</td>
</tr>
<tr>
<td></td>
<td><strong>Select by DBD Qualifier</strong></td>
</tr>
<tr>
<td></td>
<td>You can specify a single database name or use a wildcard expression to select a wider range of databases.</td>
</tr>
<tr>
<td></td>
<td>Examples: DBDNAME, DB%%%<em>, DB</em>, *</td>
</tr>
<tr>
<td></td>
<td><strong>Display DBD List?</strong></td>
</tr>
<tr>
<td></td>
<td>Lists the database objects that match the filter criteria of the qualifier name.</td>
</tr>
<tr>
<td></td>
<td>If you intend to include or exclude specific database objects, you must display the list generated by the qualifier and select those objects from the list.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td></td>
<td><strong>Include/Exclude</strong></td>
</tr>
<tr>
<td></td>
<td>You can include or exclude any number of database objects from the object profile.</td>
</tr>
<tr>
<td></td>
<td>The best practice procedure is to start with a large group of included objects, and then exclude a few selected objects from the list.</td>
</tr>
<tr>
<td></td>
<td>I-Include, E-Exclude</td>
</tr>
<tr>
<td></td>
<td><strong>Process Dependent Indexes</strong></td>
</tr>
<tr>
<td></td>
<td>Specify whether dependent indexes should be processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>For example, database reorganization requires that dependent indexes be regenerated. However, no dependent index processing is required for an image copy task.</td>
</tr>
<tr>
<td></td>
<td>Therefore a database reorganization job profile should have an object profile containing objects with Process Dependent Indexes set to Yes.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td></td>
<td><strong>Process Logical Relations</strong></td>
</tr>
<tr>
<td></td>
<td>Specify whether logical relationships between separate databases should be recognized and processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>If a particular job profile task requires processing of logical relationships, the object profile associated with that job profile should contain objects with Process Logical Relations set to Yes.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
</tbody>
</table>
Table 29. Create, model, update object profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define PSB Object Rules</td>
<td>Rules for the PSB object type are filter criteria that are used to specify one or more database objects to include in the object profile:</td>
</tr>
<tr>
<td></td>
<td><strong>Select by PSB Qualifier</strong></td>
</tr>
<tr>
<td></td>
<td>You can specify a single database name or use a wildcard expression to select a wider range of databases.</td>
</tr>
<tr>
<td></td>
<td>Examples: PSBNAME, PS%%%<em>, PS</em>, *</td>
</tr>
<tr>
<td></td>
<td><strong>Display PSB List?</strong></td>
</tr>
<tr>
<td></td>
<td>Lists the database objects that match the filter criteria of the qualifier name.</td>
</tr>
<tr>
<td></td>
<td>If you intend to include or exclude specific database objects, you must display the list generated by the qualifier and select those objects from the list.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td></td>
<td><strong>Include/Exclude</strong></td>
</tr>
<tr>
<td></td>
<td>You can include or exclude any number of database objects from the object profile.</td>
</tr>
<tr>
<td></td>
<td>The best practice procedure is to start with a large group of included objects, and then exclude a few selected objects from the list.</td>
</tr>
<tr>
<td></td>
<td>I-Include, E-Exclude</td>
</tr>
<tr>
<td></td>
<td><strong>Process Dependent Indexes</strong></td>
</tr>
<tr>
<td></td>
<td>Specify whether dependent indexes should be processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>For example, database reorganization requires that dependent indexes be regenerated. However, no dependent index processing is required for an image copy task.</td>
</tr>
<tr>
<td></td>
<td>Therefore a database reorganization job profile should have an object profile containing objects with Process Dependent Indexes set to Yes.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
<tr>
<td></td>
<td><strong>Process Logical Relations</strong></td>
</tr>
<tr>
<td></td>
<td>Specify whether logical relationships between separate databases should be recognized and processed appropriately according to the task.</td>
</tr>
<tr>
<td></td>
<td>If a particular job profile task requires processing of logical relationships, the object profile associated with that job profile should contain objects with Process Logical Relations set to Yes.</td>
</tr>
<tr>
<td></td>
<td>Y-Yes, N-No</td>
</tr>
</tbody>
</table>
### Table 29. Create, model, update object profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define DBRC Group Rules</td>
<td>Rules for the DBRC object type are filter criteria that are used to specify one or more database objects to include in the object profile.</td>
</tr>
<tr>
<td></td>
<td>DBRC group types include:</td>
</tr>
<tr>
<td></td>
<td>• CAGRPS (CG)</td>
</tr>
<tr>
<td></td>
<td>• DBDSGRPS (CD)</td>
</tr>
<tr>
<td></td>
<td>• RECOVGRPS (CR)</td>
</tr>
<tr>
<td></td>
<td>• DBGRPS (CB)</td>
</tr>
<tr>
<td></td>
<td>• All DBRC Groups (DR)</td>
</tr>
<tr>
<td></td>
<td>The following default filters are set for DBRC group rules:</td>
</tr>
<tr>
<td></td>
<td>• Only single DBRC objects can be selected; wildcard expressions are not valid.</td>
</tr>
<tr>
<td></td>
<td>• Include only</td>
</tr>
<tr>
<td></td>
<td>• Process dependent indexes is set to no</td>
</tr>
<tr>
<td></td>
<td>• Process logical relationships is set to no</td>
</tr>
<tr>
<td>Expand with All Rules Applied</td>
<td>primary index, secondary index, partition name, area name, DD name</td>
</tr>
</tbody>
</table>
Chapter 22. Utility profile overview and reference

A utility profile is a configuration file that defines a primary IMS maintenance task, and identifies the IMS Tools functions required for the task, plus the sequence in which the functions are performed.

Utility profile overview

A job profile combines the specifications in an object profile and a utility profile to generate a single JCL job that performs a primary database maintenance task for a specific IMS resource.

- The utility profile defines the primary database maintenance task (utility), the individual IMS Tools functions required for that task, and the sequence in which the functions are performed.
- The object profile defines the specific IMS resources (objects) where the generated JCL job is run.

Example utility profile specification:

- Primary task: Database reorganization
- Required IMS Tools functions and sequence: 1) unload, 2) load, 3) index build, 4) pointer check, 5) etc.

Topics:

- “Manage utility profile reference” on page 143
- “Create, model, update utility profile reference” on page 144

Manage utility profile reference

The Manage Utility Profiles interface provides the options to manage existing utility profiles and create new utility profiles in your IMS Administration Tool environment.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Filters</td>
<td>All utility profiles in the IMS Administration Tool environment are initially listed. You can control the number of utility profiles that display by using the following filter criteria:</td>
</tr>
<tr>
<td>IMSID Filter</td>
<td>Specify an IMSID or IMSID wildcard expression to control the number of utility profiles that display. Examples: IMS1, IM*, *</td>
</tr>
<tr>
<td>Creator Filter</td>
<td>Specify a utility profile creator name or creator name wildcard expression to control the number of utility profiles that display. Example: USER*</td>
</tr>
<tr>
<td>Profile Filter</td>
<td>Specify a utility profile name or name wildcard expression to control the number of utility profiles that display. Example: PROFI*</td>
</tr>
<tr>
<td>Create</td>
<td>Create a new utility profile. A utility profile is created for a single IMS environment (IMSID) and includes specifications for one or more functions that are required to perform a primary database maintenance task.</td>
</tr>
</tbody>
</table>
Table 30. Manage Utility Profiles (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sort</td>
<td>Sort the utility profile list display. Opens the Sort Columns panel. You can specify the sequence order (values: 1-5) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).</td>
</tr>
<tr>
<td>D (delete)</td>
<td>Delete an existing utility profile. A Delete Confirmation window requests confirmation of the action. The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the utility profile creator.</td>
</tr>
<tr>
<td>M (model)</td>
<td>Create (define) a new utility profile based on (modeled after) the attributes of the selected utility profile. The IMSID Selection List allows you to apply this additional utility profile to another IMS environment. A double asterisk (**) preceding the modeled name in the Utility Profile Options view indicates the need to change the profile name. A different profile name is required if the new profile is being created for the same IMSID as the original profile.</td>
</tr>
<tr>
<td>U (update)</td>
<td>Update an existing utility profile. The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the utility profile creator.</td>
</tr>
<tr>
<td>V (view)</td>
<td>View an existing utility profile. The profile must have the &quot;Update&quot; or &quot;View&quot; access control (Share Option) set to allow this action for users other than the utility profile creator.</td>
</tr>
</tbody>
</table>

Create, model, update utility profile reference

The Manage Utility Profiles interface provides the options to create, model, and update utility profiles in your IMS Administration Tool environment.

Table 31. Create, model, update utility profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>The TSO user ID (owner) of the utility profile. This field is pre-populated with the user of the current session.</td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem where this utility profile applies. This field is populated with the IMSID previously selected for this utility profile.</td>
</tr>
<tr>
<td>Profile Name</td>
<td>Any user-defined name for the utility profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Description</td>
<td>A user-defined phrase to describe the utility profile (maximum of 24 characters).</td>
</tr>
</tbody>
</table>
### Table 31. Create, model, update utility profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share Option</td>
<td>Access control setting for the management of this utility profile by users other than the profile creator.</td>
</tr>
<tr>
<td><strong>Update</strong></td>
<td>Other users can edit (update) and make changes to this utility profile.</td>
</tr>
<tr>
<td><strong>View</strong></td>
<td>Other users can only view the utility profile details.</td>
</tr>
<tr>
<td></td>
<td>No changes to the utility profile are allowed by users with this access control.</td>
</tr>
<tr>
<td><strong>None</strong></td>
<td>Other users have no edit or view access to this utility profile.</td>
</tr>
<tr>
<td>Enter Sequence Numbers to Add Functions</td>
<td>The Utility Profile Options view lists all IMS Tools functions that have been registered to the IMS Administration Tool environment. Assign sequence numbers to the functions that are required to perform the primary task. The numbers indicate the order in which the functions are to be performed. The job profile uses the combination of templates for these functions to build a single JCL job that can perform the primary task for the IMS resource specified in the object profile.</td>
</tr>
<tr>
<td>Update a Function Template</td>
<td>You can edit (update) the JCL code (template) for the selected function.</td>
</tr>
<tr>
<td><strong>Update a function template</strong></td>
<td>Display the template to modify the JCL code.</td>
</tr>
<tr>
<td><strong>View a function template</strong></td>
<td>Display the template to view the JCL code only.</td>
</tr>
<tr>
<td><strong>Enter sequence numbers to add and/or resequence functions</strong></td>
<td>Add new sequence numbers, remove sequence numbers, rearrange sequence numbers.</td>
</tr>
</tbody>
</table>
Chapter 23. Job profiles overview and reference

A job profile is a configuration file that combines a utility profile and an object profile to build a single JCL job that can perform a primary database maintenance task for a specific IMS environment.

**Job profile overview**

The job profile combines the one or more function templates specified by the utility profile into a single master JCL job. The master JCL code is a correctly sequenced concatenation of the individual function template code provided by the utility profile.

The JCL is applicable to an IMS environment that is defined by the object profile.

The templates for each function are selected by the scope level (GLOBAL, SYSTEM, IMSID, or PROFILE) that is appropriate for this task.

During the master JCL build process, variable expressions in the templates are populated with appropriate values.

Values are selected by the scope level (GLOBAL, SYSTEM, IMSID) that is appropriate for this task.

When creating the job profile, any variable can be further customized to contain a value that is appropriate only for this specific job profile (scope=PROFILE).

Additionally, some variables and values are dynamically provided during the JCL build process. Sources for these dynamic variables include:

- **Environment** (z/OS system information)
- **Registry** (IMS Tools product information)
- **Discovery** (IMS system information)

**Example job profile**

Run database reorganization on PSB1

- Object profile: PSB1
- Utility profile: Database reorganization

**Example database maintenance tasks for JCL generation**

- Run database reorganization on DBD1
- Backup databases for application identified by PSB1
- Recover databases for application identified by PSB1
- Clone one or more databases
- Print DBD/PSB hierarchy map
- Repartition a HALDB database
- Collect sensor data for a group of databases
- Print DEDB Area DMAC

**Topics:**

- “Manage Job Profiles reference” on page 148
- “Build JCL for Job Profile reference” on page 149
- “Manage Variables for Job Profile reference” on page 150
- “Create Job Profile reference” on page 151
The Manage Job Profiles interface provides the options to manage existing job profiles and create new job profiles in your IMS Administration Tool environment.

### Table 32. Manage Job Profiles

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Filters</td>
<td>All job profiles in the IMS Administration Tool environment are initially listed. You can control the number of job profiles that display by using the following filter criteria:</td>
</tr>
</tbody>
</table>
|            | **IMSID Filter**  
|            | Specify an IMSID or IMSID wildcard expression to control the number of job profiles that display.                                                                                                         |
|            | Examples: IMS1, IM*, *                                                                                                                                   |
|            | **Creator Filter**  
|            | Specify a utility profile creator name or creator name wildcard expression to control the number of job profiles that display.                                                                           |
|            | Example: USER*                                                                                                                                       |
|            | **Profile Filter**  
|            | Specify a utility profile name or name wildcard expression to control the number of job profiles that display.                                                                                         |
|            | Example: PROFI*                                                                                                                                       |
| Create     | Create a new job profile.                                                                                                                             |
|            | A job profile is created for a single IMS environment (IMSID) and includes specifications for a utility profile and an object profile that are combined to build a master JCL job that can perform a primary database maintenance task. |
| Sort       | Sort the job profile list display.                                                                                                                    |
|            | Opens the Sort Columns panel.                                                                                                                         |
|            | You can specify the sequence order (values: 1-5) for each field to be sorted and the sort orders for each field (A-Ascending or D-Descending).                                                      |
| D (delete) | Delete an existing job profile.                                                                                                                       |
|            | A Delete Confirmation window requests confirmation of the action.                                                                                    |
|            | The profile must have the "Update" access control (Share Option) set to allow this action for users other than the job profile creator.                                                               |
| M (model)  | Create (define) a new job profile based on (modeled after) the attributes of the selected job profile.                                                |
|            | An IMSID Selection List is not available. The utility profile and object profile specified in the original job profile are already associated with the current IMSID. The current IMSID association must remain consistent. |
|            | A double asterisk (**) preceding the modeled name in the Job Profile Options view indicates the need to change the profile name. A different profile name is required if the new profile is being created for the same IMSID as the original profile. |
Table 32. Manage Job Profiles (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U (update)</td>
<td>Update an existing job profile. The profile must have the &quot;Update&quot; access control (Share Option) set to allow this action for users other than the job profile creator.</td>
</tr>
<tr>
<td>V (view)</td>
<td>View an existing job profile. The profile must have the &quot;Update&quot; or &quot;View&quot; access control (Share Option) set to allow this action for users other than the job profile creator.</td>
</tr>
</tbody>
</table>

Build JCL for Job Profile reference

The Manage Job Profiles interface provides the options to build the master JCL for the primary database maintenance task for your IMS Administration Tool environment.

The master JCL code is a correctly sequenced concatenation of the individual function template code provided by the utility profile.

Table 33. Build JCL for Job Profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Profile/IMSID</td>
<td>The pre-populated name of the selected job profile and the ID of the IMS environment that the job profile belongs to.</td>
</tr>
<tr>
<td>Creator/Last Updated by/ Timestamp</td>
<td>The pre-populated name of the creator of this job profile, the name of the user who last modified this job profile, and the date and time when the last update was made.</td>
</tr>
</tbody>
</table>
| Execute or Build JCL Only | Select to build and immediately run the JCL, or only build and save the JCL.  
  • Execute (run) JCL  
  • Build JCL Only (run at a later time) |
| Edit Generated JCL | Select to edit the generated JCL before it is run.  
  • Yes  
  • No |
| JCL Output Data Set | Specify the name and location of the data set where the JCL output will reside. |
| Member | If you use a partition data set, specify the name of the member where the JCL output will reside within the data set. |
| Job Statements | Specify the environment-specific job statement information that prefixes the generated JCL.  
  If you previously specified a job statement data set for use by this job profile (Job Profile Generation Options), the build process uses the values from that data set. You do not need to re-enter the job statement information in these fields.  
  However, if you specify alternative job statement information in these fields, the new values override the values from the job statement data set. |
### Table 33. Build JCL for Job Profile (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Data Set Allocation</td>
<td>If the specified JCL output data set does not exist, the Output Data Set Allocation interface appears. Use this interface to confirm or adjust any JCL output data set characteristics and perform the allocation.</td>
</tr>
</tbody>
</table>

### Manage Variables for Job Profile reference

The Manage Job Profiles interface provides the options to manage the variables for existing job profiles in your IMS Administration Tool environment.

The Manage (DDNAME/Keyword) Variables for Job Profile interface displays all variables and values available to the IMS Administration Tool environment.

The following **source types** can apply to variables:

- **GLOBAL (scope level)**
  - The initial default scope designation for all product variables and values when they are initially registered to the IMS Administration Tool environment.

- **SYSTEM (scope level)**
  - A scope=GLOBAL variable and value that has been modified (modeled) using the variable management interface.

- **IMSID (scope level)**
  - A scope=GLOBAL or SYSTEM variable and value that has been modified (modeled or updated) using the variable management interface.

- **PROFILE (scope level)**
  - A scope=GLOBAL or SYSTEM or IMSID variable and value that has been modified (modeled or updated) using the manage job profile interface.

- **ENVIRONMENT (dynamic)**
  - z/OS system information dynamically provided during the final JCL build process.

- **REGISTRY (dynamic)**
  - IMS Tools product information dynamically provided during the final JCL build process.

- **DISCOVERED (dynamic)**
  - IMS system information dynamically provided during the final JCL build process.
### Table 34. Manage Variables for Job Profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a DDNAME Variable</td>
<td>Create a new DDNAME variable and values. Values for DDNAME variables can include data set names and the DDNAME parameter itself. Because JCL code often contains concatenated data set names, all DDNAME variables must be assigned a rule that specifies how the variable values are substituted in the code during a final JCL job build: • Replace The value for this variable replaces any existing value or values. • Before The value for this variable is applied at the beginning of any existing DDNAME concatenation. • After The value for this variable is applied at the end of any existing DDNAME concatenation.</td>
</tr>
<tr>
<td>Create a Keyword Variable</td>
<td>Create a new keyword variable and value.</td>
</tr>
<tr>
<td>Delete</td>
<td>Remove a variable name and value from the IMS Administration Tool environment.</td>
</tr>
<tr>
<td>Model</td>
<td>Create (define) a new variable based on (modeled after) the attributes of the selected variable.</td>
</tr>
<tr>
<td>Update</td>
<td>Update an existing variable value.</td>
</tr>
</tbody>
</table>

### Create Job Profile reference

The Manage Job Profiles interface provides the options to create new job profiles in your IMS Administration Tool environment.

### Table 35. Create Job Profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>The TSO user ID (owner) of the job profile. This field is pre-populated with the user of the current session.</td>
</tr>
<tr>
<td>IMSID</td>
<td>The 1-4 character name of the IMS subsystem where this job profile applies. This field is populated with the IMSID previously selected for this job profile.</td>
</tr>
<tr>
<td>Profile Name</td>
<td>Any user-defined name for the job profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Description</td>
<td>A user-defined phrase to describe the job profile (maximum of 24 characters).</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Share Option</td>
<td>Access control setting for the management of this job profile by users other than the profile creator.</td>
</tr>
<tr>
<td></td>
<td><strong>Update</strong></td>
</tr>
<tr>
<td></td>
<td>Other users can edit (update) and make changes to this job profile.</td>
</tr>
<tr>
<td></td>
<td><strong>View</strong></td>
</tr>
<tr>
<td></td>
<td>Other users can only view the job profile details.</td>
</tr>
<tr>
<td></td>
<td><strong>None</strong></td>
</tr>
<tr>
<td></td>
<td>Other users have no edit or view access to this job profile.</td>
</tr>
<tr>
<td>Add One Object Profile</td>
<td>Select one object profile from the list of profiles available for this IMS environment (IMSID).</td>
</tr>
<tr>
<td></td>
<td>You can use wildcard expressions to filter the list by the Creator ID and/or Profile name.</td>
</tr>
<tr>
<td></td>
<td>You can also arrange the list display by specifying the sequence and order of items under each column header.</td>
</tr>
<tr>
<td>Add One Utility Profile</td>
<td>Select one utility profile from the list of profiles available for this IMS environment (IMSID).</td>
</tr>
<tr>
<td></td>
<td>You can use wildcard expressions to filter the list by the Creator ID and/or Profile name.</td>
</tr>
<tr>
<td></td>
<td>You can also arrange the list display by specifying the sequence and order of items under each column header.</td>
</tr>
<tr>
<td>Generate Job If Errors</td>
<td>Select an option that specifies how an error is handled when the JCL is generated.</td>
</tr>
<tr>
<td></td>
<td><strong>Y-Yes</strong></td>
</tr>
<tr>
<td></td>
<td>If an error occurs, continue to generate the JCL.</td>
</tr>
<tr>
<td></td>
<td><strong>N-No</strong></td>
</tr>
<tr>
<td></td>
<td>If an error occurs, do not generate the JCL.</td>
</tr>
<tr>
<td></td>
<td><strong>W-Warning</strong></td>
</tr>
<tr>
<td></td>
<td>If an error occurs,</td>
</tr>
<tr>
<td>Job Statement Data Set</td>
<td>You can specify a data set that stores the environment-specific job statement information that prefixes generated JCL. The job statement information provided by this data set is used by default by your job profiles, unless you provide overriding values at the time a job profile created, modeled, or updated.</td>
</tr>
<tr>
<td></td>
<td><strong>Data Set Name</strong></td>
</tr>
<tr>
<td></td>
<td>The name and location of the data set where the job statement information resides.</td>
</tr>
<tr>
<td></td>
<td><strong>Member</strong></td>
</tr>
<tr>
<td></td>
<td>If you use a partition data set, the name of the member where the job statement information resides within the data set.</td>
</tr>
</tbody>
</table>
IMS SQL processing using file input (SPUFI) function allows you to develop interactive SQL commands, run the SQL commands, and review the resulting output from the SQL command.

Topics:
- Chapter 24, “IMS SPUFI overview,” on page 155
- Chapter 25, “Set IMS SPUFI options reference,” on page 159
- Chapter 26, “Run IMS SPUFI statements reference,” on page 161
Chapter 24. IMS SPUFI overview

IMS SQL processing using file input (IMS SPUFI) function of IMS Administration Tool allows you to directly interact with an IMS system by developing and running interactive SQL statements and reviewing the resulting output.

You can issue SQL statements SELECT, INSERT, UPDATE, and DELETE to view, insert, update, and delete data in IMS databases.

**IMS SQL runtime language environments**

The SQL statements that you issue through the web interface or the ISPF interface are executed as IMS application programming API in the IMS SPUFI application program in z/OS. You can select COBOL or Java for the language environment to execute SQL statements. Based on the selected language environment, the IMS SPUFI application is executed as an IMS COBOL application or IMS Java application. Therefore, considerations and restrictions that apply when using COBOL and Java applications with IMS SQL also apply to IMS SPUFI.

The SQL statements that IMS SPUFI supports are SELECT, INSERT, DELETE, and UPDATE. The syntax of the statements differ between COBOL and Java. For more information, see the topic "SQL statements" in *IMS Application Programming APIs*.

The IMS SPUFI COBOL or Java application runs as a sub task in the IMS Tools Base DAI SOT address space as well as other functions of IMS Administration Tool. The difference from other functions is that the COBOL application runs as IMS BMP and the Java application runs as IMS JBP. The IMS JBP uses type-2 IMS Universal drivers. Therefore, considerations and restrictions that apply when using type-2 IMS Universal drivers also apply to IMS SPUFI. For more information, see the topic "IMS Universal drivers overview" in *IMS Application Programming*.

**Restrictions:**

- The IMS catalog must be defined to the IMS system to which the SQL statements are issued.
- IMS Administration Tool must be run on the same z/OS LPAR as the IMS system because the IMS SPUFI application program runs as IMS JBP or BMP.
- Supported SQL statements are SELECT, INSERT, DELETE, and UPDATE. Other SQL statements are not supported by IMS SPUFI.
- SQLIMS restrictions that are described in the topic "SQL considerations and restrictions for COBOL" in *IMS Application Programming* also apply to IMS SPUFI if you use COBOL to execute SQL statements.

To select the language environment, specify either COBOL or JBP (Java batch processing) for the SQLLANG variable.

**COBOL**

If COBOL is specified for variable SQLLANG or if variable SQLLANG is not defined, IMS SPUFI COBOL application runs as IMS BMP.

The IMS SPUFI COBOL application uses SQLIMS, which is supported by IMS. SQLIMS requires each SQL statement to begin with EXEC SQLIMS and end with END-EXEC. However, you do not need to write EXEC SQLIMS and END-EXEC statements on the IMS SPUFI panels. IMS SPUFI internally adds EXEC SQLIMS and END-EXEC statements. You can simply start a SQL statement with SELECT, INSERT, UPDATE, or DELETE.

COBOL is the default value for the SQLLANG variable.

**JBP**

If JBP is specified for variable SQLLANG, IMS SPUFI Java application runs as IMS JBP with type-2 IMS Universal drivers.

If you specify JBP for variable SQLLANG, you must also specify the path prefix for the ATY jar file as a variable. For more information, see “Setting up a Java environment for IMS SPUFI JBP” on page 40.
About Structured Query Language for IMS

Because an IMS database is hierarchical in structure, IMS database elements must be mapped to relational database elements when using SQL.

For example, a database segment definition defines the fields for a set of segment instances similar to the way that a relational table defines columns for a set of rows in a table. In this regard, segments relate to tables, and fields in a segment relate to columns in a table. An occurrence of a segment in a database corresponds to a row in a table.

<table>
<thead>
<tr>
<th>Table 36. Relational versus IMS hierarchical database structure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relational DB</strong></td>
</tr>
<tr>
<td>Table</td>
</tr>
<tr>
<td>Column</td>
</tr>
<tr>
<td>Row</td>
</tr>
<tr>
<td>Scheme</td>
</tr>
<tr>
<td>Table primary key</td>
</tr>
</tbody>
</table>

When you write an SQL statement, you specify what you want done, not how to do it. To access data, for example, you need only to name the segment and fields that contain the data. You do not need to describe how to get to the data.

IMS transforms each SQL statement (that is, the specification of a result table), into a sequence of operations for data retrieval or modifications.

**IMS database structure - the role of PSB for SQL**

IMS database is a hierarchical database where data is stored at different levels and each entity is dependent on higher level entities. Each level in the hierarchy contains segments, which are groupings of similar or related data.

A segment is the smallest unit of information that is transferred to and from an application program during any input-output operation.

IMS control blocks define the structure of the IMS database and a program's access to them. The database descriptor (DBD) control block describes the complete physical structure of the database, such as its organization and access method, the segments and fields in a database record, and the relationship between the types of segments.

However, the application programs that process data can have different views of the database. These views are called application data structure and are defined in the program specification block (PSB).

PSBs define the database view and logical message destinations for the IMS database that is appropriate for applications such as SQL that rely on a relational database structure.

The database view for applications provided by a PSB is called a program communication block (PCB). The PSB defines one PCB for each DL/I database that the application program accesses. The number of PCBs depends on the number of databases to be used by the program. There can be many PCBs in a PSB, allowing a program to communicate with (access) multiple IMS databases.

A PCB also defines the access levels allowed to a program. The allowed accesses include SELECT, UPDATE, INSERT, and DELETE. To use SQL statements to browse or update IMS data, you must use a PSB that contains a PCB that provides the required level of access to the database, to the segments in that database, and to the fields in those segments.
A PCB can also allow a program to use different access paths through a database. It can allow the program to access a database through a secondary index or a logical relationship. The program view of the hierarchical structure of the database can be different from the hierarchical structure defined in the DBD.

**Accessing IMS data - IMS catalog**

The IMS catalog is the single, authoritative source of database and application metadata for all client applications. The data stored in the IMS catalog includes all the metadata that is traditionally held in the DBD and PSB libraries.

You can write SQL to access IMS data based on the metadata information available in the IMS catalog database. IMS SPUFI requires that the IMS catalog be enabled and loaded with the database metadata needed by SQL.

Like other types of IMS databases, the structure of the IMS catalog is defined by database descriptions (DBDs), and access to the IMS catalog is defined by program specification blocks (PSBs).

The IMS catalog contains metadata derived from the DBD, PSB, and PCB control blocks that define the application and database views. The metadata includes information about the IMS database, including segments, segment names, the segment hierarchy, fields, field types, field names, fields offsets, and field lengths. For example the EXTERNALNAME parameter for a DBD segment or field is described in the IMS catalog metadata.

When an IMS application program requires access to the metadata in the catalog, a PSB to access the catalog database is automatically attached to the PSB that is loaded for the application. IMS can then use that PSB to access the metadata in the IMS catalog.

**Summary: Run IMS SPUFI from the Management Console**

The following outline provides a summary of using IMS SPUFI from the Management Console interface:

- Specify SQL statement and output formatting characteristics from the SQL Options tab.
- Specify the IMS subsystem (IMSID).
- Specify the required PSB.

To obtain a list of the PSBs associated with the selected IMSID, click on the Program View tab.

You can further expand the PSB information to view associated PCBs and the detail for each PCB (Table, Columns and Authority, information).

The PCB authority information shows the types of operations - such as Select, Update, Insert, and Delete - that IMS SPUFI can perform on the fields in the database.

- Enter the SQL statements.
- Click on the Execute SQL button.

The Management Console uses temporary output data sets to record and display SQL output.

- The History tab retains the current and previous SQL statement sessions, and allows easy access to regularly used statements during future use.

**Summary: Run IMS SPUFI from ISPF**

The following outline provides a summary of using IMS SPUFI from the ISPF interface:

- Specify SQL statement and output formatting characteristics from the Set IMS SPUFI Options panel.
- Specify the IMS subsystem (IMSID).

Use the question mark ("?"") to obtain a list of available IMSIDs.

- Specify the required PSB.

Use the question mark ("?"") to obtain a list of PSBs associated with the selected IMSID.
You can further expand the PSB information to view associated PCBs and the detail for each PCB (Table, Authority, and Column information).

The PCB authority information shows the types of operations - such as Select, Update, Insert, and Delete - that IMS SPUFI can perform on the segments in the database.

• Specify input and output data set names.

  The data set names can be specified once and then reused repeatedly.

  Alternatively, a temporary output data set can be used, as specified by the temporary output data set characteristics.

  Using data sets also means that a possibly-complicated set of SQL commands can persist from session to session rather than being lost upon exit.

• Enter or edit the SQL statements.

  The standard ISPF editor is opened on the input data set.

• Enter EXECSQL on the command line to process the SQL statements

  The ISPF interface uses the configured input and output data sets to record SQL statements and display SQL output.

• The results are placed in the output data set and the ISPF editor is opened (in read-only "browse" mode) on that output.
Options are available to specify SQL statement characteristics and output formatting characteristics.

### SQL Statement Characteristics

Table 37. SQL Statement Characteristics

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL Terminator</td>
<td>Specifies the character that terminates each of multiple SQL statements in an input stream. Valid values include the semicolon (;) or the colon (:). Default value is the semicolon (;). Example:</td>
</tr>
</tbody>
</table>
|                      | SELECT* FROM DFSCAT00.FLDRMK ;  
| Max SELECT Lines     | Specifies the maximum number of lines (rows) that a SELECT statement can return to the caller. Valid values = 1-99999. Default value = 250 |

### Output Formatting Characteristics

Table 38. Output Formatting Characteristics

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decimal Point</td>
<td>Specifies how IMS SPUFI displays decimal separators in its output. Valid values include the comma (,) or the period (.) Default value is the period (.) Example:</td>
</tr>
<tr>
<td></td>
<td>100.99 or 100,99</td>
</tr>
<tr>
<td>MAX Numeric Field Width</td>
<td>Specifies the maximum column width for returned numeric data. If the numeric data returned is greater than this value, the field is populated with asterisks (** **). Valid values = 1-99. Default value = 33</td>
</tr>
</tbody>
</table>
Table 38. Output Formatting Characteristics (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX CHAR Field Width</td>
<td>Specifies the maximum column width for returned non-numeric (character) data.</td>
</tr>
<tr>
<td></td>
<td>If the non-numeric data returned is greater than this value, the field is</td>
</tr>
<tr>
<td></td>
<td>truncated at the specified field width.</td>
</tr>
<tr>
<td></td>
<td>Valid values = 1-99</td>
</tr>
<tr>
<td></td>
<td>Default value = 80</td>
</tr>
<tr>
<td>Lines/Page of Listing</td>
<td>Specifies the number of lines to print on each page of listing or IMS SPUFI</td>
</tr>
<tr>
<td></td>
<td>output.</td>
</tr>
<tr>
<td></td>
<td>When the specified value is reached, column header rows are repeated.</td>
</tr>
<tr>
<td></td>
<td>Valid values = 50-999</td>
</tr>
<tr>
<td></td>
<td>Default value = 60</td>
</tr>
</tbody>
</table>
Chapter 26. Run IMS SPUFI statements reference

IMS SQL processing using file input (SPUFI) allows you to issue pre-written SQL statements and review the resulting output.

IMS SPUFI is used to view data from an IMS database.

**IMS SPUFI PSB and Data Set Settings**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSID</td>
<td>Specify the ID of the IMS subsystem to interact with. Enter a '?' to list the active IMS V13.0+ systems within the same LPAR.</td>
</tr>
<tr>
<td>PSB Name</td>
<td>Specify a PSB name associated with this IMSID.</td>
</tr>
<tr>
<td></td>
<td>PSB selection methods:</td>
</tr>
<tr>
<td>Management Console</td>
<td>• Select the Program View tab.</td>
</tr>
<tr>
<td></td>
<td>• The Program View (PSB Name) column loads the list of PSBs associated with the selected IMS subsystem.</td>
</tr>
<tr>
<td></td>
<td>• Select a PSB to further expand PSB and PCB details.</td>
</tr>
<tr>
<td></td>
<td>The PSB program view provides the information detail that can help you construct valid SQL statements.</td>
</tr>
<tr>
<td></td>
<td>• Type the name of the appropriate PSB in the PSB Name field.</td>
</tr>
<tr>
<td>ISPF</td>
<td>• Enter '?' to display the list of PSBs associated with the selected IMS subsystem.</td>
</tr>
<tr>
<td></td>
<td>• Select the name of the appropriate PSB from the PSB list.</td>
</tr>
<tr>
<td></td>
<td>• From the PSB list, use the Expand line command to display the program view that provides further PSB and PCB details.</td>
</tr>
<tr>
<td></td>
<td>The PSB program view provides the information detail required to help you construct valid SQL statements.</td>
</tr>
<tr>
<td>Note:</td>
<td>If the selected IMS subsystem is not catalog-enabled, the detailed program view cannot be obtained.</td>
</tr>
<tr>
<td>Input Data Set Name (ISPF only)</td>
<td>Specify the data set member name that contains the stored SQL statements to run.</td>
</tr>
<tr>
<td>Member</td>
<td>• The input data set must be a pre-allocated sequential or a partition data set (PDS) with a record format of fixed block (FB) and a record length of 80 (LRECL).</td>
</tr>
<tr>
<td></td>
<td>• Specify the PDS name along with the member name, or a sequential data set name with no member name.</td>
</tr>
<tr>
<td></td>
<td>• The specified data set contains the stored SQL statements to run.</td>
</tr>
<tr>
<td></td>
<td>• The SQL statements in the data set can be edited before running.</td>
</tr>
<tr>
<td></td>
<td>• There is no &quot;list&quot; (?) support for the member name field.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Output Data Set Name (ISPF only)</td>
<td>Optionally specify the pre-allocated sequential data set name for SQL output. If blank, IMS SPUFI uses a temporary output data set using the output file characteristics that are specified in the Temporary Output Data Set Characteristics section of the panel.</td>
</tr>
<tr>
<td></td>
<td>• Space Units</td>
</tr>
<tr>
<td></td>
<td>• Primary Amount</td>
</tr>
<tr>
<td></td>
<td>• Secondary Amount Record Length</td>
</tr>
<tr>
<td></td>
<td>• Record Format</td>
</tr>
<tr>
<td></td>
<td>• Device Type</td>
</tr>
<tr>
<td>History (Management Console only)</td>
<td>The History tab retains the current and previous SQL statement sessions, and allows easy access to regularly used statements during future use.</td>
</tr>
</tbody>
</table>
You can issue IMS commands and review responses from the IMS Administration Tool user interface.

**Topics:**

- Chapter 27, “IMS command processor overview,” on page 165
- Chapter 28, “Using IMS Command Processor reference,” on page 173
- Chapter 29, “Using IMS Command Processor - batch processing,” on page 185
- Chapter 30, “Predefined procedures and commands,” on page 193
- Chapter 31, “Command processor API,” on page 197
Chapter 27. IMS command processor overview

IMS Administration Tool command processor allows you to issue, analyze, and coordinate IMS commands across as many as 64 IMS regions on any number of z/OS images, all from a single point of control.

Topics:
• “IMS command processor features” on page 165
• “IMS command processor operation environments” on page 166
• “IMS command processor configurations” on page 166
• “IMS command groups overview” on page 169
• “IMS command log (and audit log) overview” on page 169
• “Command store/forward overview” on page 171
• “Message disposition overview” on page 171

IMS command processor features

The IMS Administration Tool command processor can simplify the issuing, analyzing, and coordinating of IMS commands.

You can use the IMS command processor to:

- Process both IMS type-1 and type-2 commands.
- Issue commands to and from 1 to 64 IMS systems simultaneously.
- Issue commands to any type of IMS system: DBCTL, DCCTL, or DB/DC.
- Pass commands to individual IMS systems, or to a group of IMS systems that are defined as a command group.
- Issue commands using any of the following methods:
  - Batch program
  - ISPF interface
  - Web interface
  - Callable application programming interface (API)
- Provide powerful predefined procedures that can:
  - Automate online change processing
  - Clean up the dead letter queue
- Create a combined log for IMS messages, commands, and command responses.
- Manage messages that are to be suppressed from the IMS master terminal, the IMS Administration Tool message log, or the IMS secondary master.

When run as a batch program, the IMS command processor can:

- Provide database command response verification, command conversion, and simulate IMS responses.
- Verify successful command processing for database START, STOP, DBR, and DBD commands.
- Retry failed commands.
- Reissue commands that fail because a member of a command group is unavailable.
- Use automated online change.

Restriction: The following functions, which are supported by IMS Command Control Facility, are not supported by IMS Administration Tool.
• APPC/MVS and APPC/IMS
• Command processor list

For more information about compatibility and incompatibility between IMS Administration Tool and IMS Command Control Facility, see “Migration from IBM IMS Command Control Facility for z/OS” on page 42.

### IMS command processor operation environments

The IMS Administration Tool command processor controls the issuing of commands to IMS.

#### Supported environments for issuing commands

The IMS Administration Tool command processor can issue commands in the following environments:

**Batch program**

When run as a batch program, the IMS command processor can run as an IMS BMP, IMS DL/I batch, or standard z/OS batch job.

IMS commands are read from an input data set and are processed one-at-a-time across all requested IMS systems.

**Web interface or ISPF dialog**

When IMS commands are entered from the web interface or ISPF dialog, the commands are sent to the IMS Tools Base DAI SOT address space where IMS Administration Tool command processor runs as a subtask. Then the commands are routed to a single IMS system or multiple IMS systems that belong to an IMS command group.

**IMS command callable application programming interface (API)**

When run as an IMS command callable API, the IMS command processor routes the command that was passed by the calling program to either a specific IMS system or to a set of IMS systems that are contained in an IMS command group.

For all environments, IMS Administration Tool can issue commands either to an individual IMS system or up to 64 IMS systems in an IMS command group.

IMS Administration Tool command processor sends IMS commands to IMS Operation Manager (OM) region.

Every IMS system must be configured an IMS OM region to process IMS commands issued by IMS Administration Tool command processor. All IMS systems that belong to the same IMS command group must be managed by one OM region.

Applicable IMS system environment types are DBCTL, DCCTL, and DB/DC.

### IMS command processor configurations

The combination of a command-issuing environment and a command routing interface results in a specific command processor configuration.

You can use the IMS command processor in any of the following configurations:

• “IMS Operations Manager (OM) configuration” on page 167
  
The command processor issues commands to the IMS Operations Manager address space.

• “Local BMP configuration” on page 168
  
The command processor issues commands to the local IMS where the BMP is attached using the ICMD/RCMD automated operator interface.
**IMS Operations Manager (OM) configuration**

IMS Administration Tool can issue commands to IMS through the IMS Operations Manager (OM) automated operator interface (AOI).

Operations Manager (OM) is part of the IMS Common Service Layer (CSL).

To use the IMS Operations Manager to route commands, the target IMS system must be connected to the IMS Operations Manager.

**Restriction:** If IMS Operations Manager routing is selected for an IMS system in a command group, then all IMS regions in the command group must use the same IMS Operations Manager.

The supported command-issuing environments and command-routing interfaces are illustrated in the following figure.

![IMS OM Configuration Diagram](image)

**Figure 13. IMS Operations Manager (OM) configuration**

The IMS OM configuration is supported when the IMS command driver runs in one of the following environments:

- Batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch)
- ISPF dialog
- Callable API

When you use this configuration, the IMS command driver must run in the same z/OS sysplex as the IMS OM.

IMS Administration Tool places no restrictions or limitations on commands when you use this configuration.

IMS OM support provides the following additional flexibility to IMS Administration Tool:

- Support for IMS Type-2 (OM) commands
- Formatting of IMS Type-2 (OM) command responses

**Guidelines for IMS OM command routing interface**

**Advantages:**

- A single instance of an IMS OM can be used by several IMS systems.
  
  A typical scenario would be all IMS systems in a data sharing environment. But it is not limited to systems in a data sharing environment.
  
  Example: A test environment, with many independent IMS systems, could share a single OM instance.

- Supports both type-1 and type-2 IMS commands
- Supports all IMS region types (DB/DC, DCCTL, DBCTL)
• No VTAM® setup
• No BMP scheduling (remote STC)

Disadvantages:
• Requires additional address spaces (Common Service Layer address spaces)
• Does not allow commands to be routed outside of a sysplex

Recommendations:
The IMS Operations Manager supports all IMS region types, as well as type-2 IMS commands. The Operations Manager is a good command routing interface choice under the following conditions:
• If it is not inconvenient for you to set up additional address spaces
• If you do not need to issue commands outside of the sysplex

Local BMP configuration
IMS Administration Tool can issue commands to IMS using a local batch message processing (BMP) configuration.

IMS Administration Tool can issue commands directly to an IMS where the IMS command driver is attached as an IMS BMP.

The supported command-issuing environments and command-routing interface are illustrated in the following figure.

![Figure 14. Local BMP configuration](image)

The local BMP configuration is used if the IMS command driver runs as an IMS BMP.

Because IMS accepts only type-1 commands from the ICMD/RCMD DL/I, IMS Administration Tool cannot issue type-2 commands to an IMS system that uses this configuration.

Certain type-1 commands are either not allowed or do not perform as expected when IMS Administration Tool runs as a local BMP. IMS Administration Tool processes these commands uniquely when one of the following commands is encountered:
• /MOD commands
• Commands that change a database/AREA state (for example, /DBD, /DBR, /STA, and /STO)
IMS command groups overview

IMS Administration Tool passes commands to individual IMS systems, or to a group of IMS systems that are defined as an IMS command group.

Typically, IMS command groups are defined to associate together all IMS systems within an IMSplex. These multiple systems share databases that need to be kept in the same state.

All members of a command group must belong to the same IMSplex. IMS command groups allow you to issue IMS commands that are routed to only the members of the group within the IMSplex.

The best practice recommendation is for an IMS command group to contain all members of the IMSplex.

For certain environments where all IMS systems in an IMSplex are not actually data sharing, IMS command groups can be defined to associate together only a select number of IMS systems within the IMSplex. These select systems share databases that need to be kept in the same state.

An IMS command group consists of 1 to 64 IMS systems where commands can be distributed for processing. Typically these IMS systems share resources and keep events synchronized.

IMS command groups consist only of the members that are defined in the command group.

The IMS command group and the IMSplex can contain a different number of IMS regions. If this is the case, IMS Administration Tool verifies that the command was properly routed for only those members of the command group. If a command fails on an IMSplex member that is not part of the command group, IMS Administration Tool continues as if no error were encountered.

To register IMS command groups, use the ISPF interface or the web interface:

- Web interface: Setup and Admin > IMS Management > Manage Groups
- ISPF interface: 0. Setup and Administration > 3. Manage Groups

IMS command log (and audit log) overview

An IMS command log (or audit log) can provide a single point of reference for viewing IMS commands and command responses for a specific IMS subsystem.

Command logging information can be captured by either the command log or the audit log. Both log files are optional and must be created and configured for any logging to occur.

Log streams used by IMS Administration Tool

IMS Administration Tool uses two types of log stream definitions:

- Audit log
  The single global IMS Administration Tool audit log, when configured, activates general product logging and captures processing information for the entire IMS Administration Tool environment.
  By default, the audit log does not capture IMS command and response information.

- IMS command log(s)
  An IMS command log is configured for a specific IMS subsystem and when configured, activates command logging and captures IMS command and response information.
  A command log stream can be named the same as the audit log stream (recommended). The single audit log then captures IMS command and response information in addition to general product processing information.

z/OS System Logger overview

The audit log and IMS command log streams are initially created during z/OS configuration and are defined as z/OS System Logger log stream data sets.
• System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.

  **Restriction:** In order to share the z/OS log stream across z/OS images, a coupling facility is required.
• The advantage of using System Logger is that the responsibility for tasks - such as saving the log data (with the requested persistence), retrieving the data (potentially from any system in the sysplex), archiving the data, and expiring the data - is removed from the creator of the log records.

In addition, System Logger provides the ability to have a single merged log that contains log data from multiple instances of an application within the sysplex.

• IMS Administration Tool uses the IMS automated operator interface (AOI) exit to capture IMS messages, commands, and command responses, and then write them to a z/OS system logger log stream:
  - DFSAOE00, if you are implementing a non-refreshable user exit.
  - ATYAOE00, if you are implementing a refreshable user exit.
DFSAOE00 is not used if you are implementing a refreshable exit routine.

• Additionally, IMS Administration Tool provides post-exit routines that capture commands and command responses from the IMS Operations Manager (OM) and write them to the same z/OS log stream.

These routines can be added to the IMS OM task to capture copies of commands and responses for the IMS OM.
• The log stream can be shared by IMS regions that run anywhere in the z/OS sysplex.

The log stream must be defined to the coupling facility in order for it to be shared (read or update) by multiple z/OS images.
• Additionally, the data in the z/OS log stream can be archived to a sequential data set for historical reference and problem determination.

The archive job provides parameters to determine how much data is to be archived, or left in the log stream.

**Management of log stream data**

IMS Administration Tool writes records to the log stream in the order in which they are presented to the IMS automated operator interface (AOI) and Operations Manager (OM) exits.

The data remains in the log stream until it is either marked for deletion by IMS Administration Tool or automatically deleted by the z/OS System Logger.

If the log data is required for historical purposes, you should set the retention period in the z/OS System Logger policy high enough so that the data is not deleted before the IMS Administration Tool archive job can offload the data.

**Using an audit log stream**

You can use the optional single IMS Administration Tool audit log to capture a variety of product activity.

To activate general product logging, you specify the audit log stream in the IMS Administration Tool global settings:

**Setup and Administration > Global Settings > Audit Log**

**Technical notes:**
• The audit log is created during z/OS configuration and is defined as a z/OS System Logger log stream data set.
  Refer to the appropriate z/OS documentation for information and syntax.
• Only one audit log serves the entire IMS environment.
• By default, IMS commands and responses are not logged to the audit file.

**Using a command log stream**

You can use one or more optional IMS command logs to capture IMS command and response information.

To activate IMS command logging, you specify the command log stream when you register individual IMS subsystems:

**Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream**

Technical notes:

- An IMS command log is created through z/OS configuration and is defined as a z/OS System Logger log stream data set.
  
  Refer to the appropriate z/OS documentation for information and syntax.

- Multiple command logs can serve multiple IMS subsystems.

- You can name the command log stream the same as the audit log stream (recommended), or alternatively, you can specify a separate command log stream for each individual IMS subsystem.

**Command store/forward overview**

The command store/forward feature saves commands that fail because a member of a command group is unavailable. The saved commands are then run when the IMS region is started.

Command store/forward is a feature that can keep all members of a command group in synchronization. Command store/forward is used in an IMSplex to ensure that resources are in the same state (for example, stopped or started) across all members of the sysplex.

If a member of the command group is unavailable when the command driver is running as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), the commands are saved in a data set and are subsequently run when the IMS region is started.

**Message disposition overview**

You can use message disposition to suppress messages from the IMS master terminal, the IMS Administration Tool message log, or the IMS secondary master. You can also use message disposition to route messages to an automated operator interface (AOI) token.

**Note:** Suppressing messages from the IMS secondary master is valid only for IMS 12 and higher.

You must define each message that you want IMS Administration Tool to determine the disposition of. You define each message by using the IMS Administration Tool ISPF interface.

Message disposition is invoked as part of the IMS automated operator interface (AOI) exit:

- DFSAOE00, if you are implementing a non-refreshable user exit.
- ATYAOE00, if you are implementing a refreshable user exit.

  DFSAOE00 is not used if you are implementing a refreshable exit routine.

You can use message disposition to:

- Suppress messages from the IMS master terminal.
- Suppress messages from the IMS Administration Tool message log.
- Route messages to an AOI token.
- Manage the list of messages for which IMS Administration Tool is to determine the disposition.
- Dynamically refresh the list of messages without an IMS restart.
• Suppress messages from the IMS secondary master terminal (IMS 12 and higher).
Chapter 28. Using IMS Command Processor reference

The IMS Administration Tool command processor allows you to interactively issue IMS commands and to view the IMS command log.

Topics:

• “Specifying IMS command global options” on page 173
• “Specifying IMS command job options” on page 177
• “Issuing IMS commands” on page 180
• “View the IMS command log” on page 181

Specifying IMS command global options

Global options for the IMS command processor allow you to set installation defaults for all batch job steps that run the command processor batch utility.

Some of the options are also supported for IMS commands that are entered through the web or the ISPF user interface.

General Processing Options

Table 40. General Processing Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command Input DDNAME</td>
<td>The ddname that defines the data set or in-stream command input to the command processor batch process.</td>
</tr>
<tr>
<td></td>
<td>Except for SYSIN or SYSPRINT, there are no restrictions on the name that can be defined. This could facilitate the use of existing JCL to avoid unnecessary conversions.</td>
</tr>
<tr>
<td>Command Output DDNAME</td>
<td>The ddname that defines the output data set where all issued commands and output are displayed.</td>
</tr>
<tr>
<td></td>
<td>Except for SYSIN or SYSPRINT, there are no restrictions on the name that can be chosen. This also could facilitate the use of existing JCL to avoid unnecessary conversions.</td>
</tr>
</tbody>
</table>

General Processing Options - Command Retry Options

The following options are also effective for IMS commands that are entered through the web or the ISPF user interface.

Table 41. General Processing Options - Command Retry Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts</td>
<td>The command processor retries unsuccessful database commands up to the number specified (0-99). If 0 is specified, no retry is attempted. Use this parameter in conjunction with the Command Retry Interval.</td>
</tr>
</tbody>
</table>
Table 41. General Processing Options - Command Retry Options (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interval(Sec)</td>
<td>The command processor waits to retry unsuccessful database commands for the specified number of seconds (from 0-999). If 0 is specified, retry is attempted immediately. Use this parameter in conjunction with the Command Retry Attempts.</td>
</tr>
</tbody>
</table>

General Processing Options - Abend/RC Failure Options

Table 42. General Processing Options - Abend/RC Failure Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>A selected number (0 - 4095) that specifies the user completion code for any error condition that results in an abend of the processing job step. If a value is not specified (0000), the default of 4070 is used.</td>
</tr>
<tr>
<td>Return Code</td>
<td>A selected number (0 - 4095) that specifies the job step condition code for any error condition that does not result in an abend of the processing job step.</td>
</tr>
</tbody>
</table>

Failure options - General

You can instruct IMS Administration Tool how to handle any other unexpected error condition by specifying one of the following options.

Table 43. Failure options - General

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected return code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected return code.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

Failure options - Routing

You can instruct IMS Administration Tool how to handle IMS OM routing error conditions by specifying one of the following options.

Table 44. Failure options - Routing

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected error from using IMS OM.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected error from using IMS OM.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected error from using IMS OM.</td>
</tr>
</tbody>
</table>
### Table 44. Failure options - Routing (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

### Failure options - DFS0488I

You can instruct IMS Administration Tool how to handle an unacceptable return code by specifying one of the following options.

### Table 45. Failure options - DFS0488I

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected return code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected return code.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

### Failure options - DBRC

When ABEND, Return Code, or Issue WTOR option is selected, IMS Administration Tool verifies the state of the database in DBRC after /DBD and /DBR commands. These three options instruct IMS Administration Tool how to proceed if a database is still open with update intent by any subsystem after the commands have completed. The NODBRC option sets DBRC validation off.

### Table 46. Failure options - DBRC

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after a database command is issued which shows the database in an unexpected status.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after a database command is issued which shows the database in an unexpected status.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after a database command is issued that shows the database in an unexpected status.</td>
</tr>
<tr>
<td>NODBRC</td>
<td>Do not use DBRC to verify the status of the database.</td>
</tr>
</tbody>
</table>

### ATYMOD Options

You can instruct the command processor how to handle error conditions when attempting to use the /ATYMOD online change procedure.
### Table 47. /ATYMOD Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ATYMOD Failures</td>
<td>• 1 ABEND If an unexpected error condition occurs while attempting to use the /ATYMOD online change procedure, the command processor should abend the job.</td>
</tr>
<tr>
<td></td>
<td>• 2 Return Code If an unexpected error condition occurs while attempting to use the /ATYMOD online change procedure, the command processor should terminate the job step with a non-zero return code.</td>
</tr>
</tbody>
</table>

| /ATYMOD COMMIT Reversal? | If Y is specified for this option, the command processor attempts to undo any successfully completed online change if an online change error has occurred on at least one of the IMS systems in the IMS command group where the /ATYMOD online change procedure is being attempted. If N is specified, no online change reversal is attempted. |

### Database Options - Return Codes

If there are non-zero return codes that are acceptable for database commands, up to 20 non-zero return codes can be specified from DFS0488I messages, or up to 5 return codes can be returned from IMS OM. When the command processor encounters one of these return codes, the command processor treats the command as successfully completed.

The following options are also effective for IMS commands that are entered through the web or the ISPF user interface.

### Table 48. Database Options - Return Codes

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid DFS0488I Return Codes</td>
<td>Specify 1-20 acceptable non-zero return codes (2 character length).</td>
</tr>
<tr>
<td>Valid IMS OM Return Codes</td>
<td>Specify 1-5 acceptable non-zero return codes (4 character length).</td>
</tr>
</tbody>
</table>

### Database Options - /START DB ACCESS

If you want the command processor to determine the database access mode when a /START DB command with the ACCESS=UP parameter is issued, specify one of the following three options.

The following options are also effective for IMS commands that are entered through the web or the ISPF user interface.

### Table 49. Database Options - /START DB ACCESS

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use SYSGEN</td>
<td>The command processor reads your staging MODBLKS data set to determine access based on how the database stage 1 macro was coded.</td>
</tr>
</tbody>
</table>
### Table 49. Database Options - /START DB ACCESS (continued)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use DBRC</td>
<td>The command processor reviews the output of a LIST.DB command to determine the access to the database.</td>
</tr>
<tr>
<td></td>
<td>If the database was defined with sharelvl(3), the command processor issues <code>/STA DB x ACCESS=UP</code> on all systems.</td>
</tr>
<tr>
<td></td>
<td>If sharelvl (1 or 2), the command processor issues <code>/STA DB x ACCESS=UP</code> on the primary IMS (where the BMP is attached or the IMSID for either DL/I or standard batch is defined) and issues <code>/STA DB x ACCESS=R*</code> on the remaining IMS regions.</td>
</tr>
<tr>
<td>As coded</td>
<td>The command processor processes the command as it is coded.</td>
</tr>
</tbody>
</table>

### Database Options - Questions

Preference settings for database options.

The following options, except for the "WTO Database command?" option, are also effective for IMS commands that are entered through the web or the ISPF user interface.

### Table 50. Database Options - Questions

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTO Database Command?</td>
<td>For IMS/TM systems only, specify either Y or N if database commands should be displayed in SYSLOG through WTO.</td>
</tr>
<tr>
<td>Expand DATAGRP Commands?</td>
<td>Specify Y if the command processor should issue individual commands for each database defined to a DBRC database group instead of issuing database commands with the DATAGRP keyword. Specify N if database commands with the DATAGRP keyword should be issued by the command processor as coded.</td>
</tr>
<tr>
<td>Treat DFS3466I as an Error?</td>
<td>Specify either Y or N if the command processor should treat any DFS3466I message as an error condition after any database command.</td>
</tr>
<tr>
<td>Add NOFEOV to /DBD and /DBR</td>
<td>Specify either Y or N if the command processor should append the NOFEOV keyword after any /DBR or /DBD command.</td>
</tr>
<tr>
<td>Set rc/ABEND when DB/AREA ALL Fails?</td>
<td>Specify either Y or N if the command processor should analyze responses to Database/AREA commands when the ALL parameter is used.</td>
</tr>
</tbody>
</table>

### Specifying IMS command job options

IMS command job options allow you to set options for the IMS command batch jobs. A set of job options is identified by a jobname or jobmask. IMS Administration Tool applies the job options whose name matches the name of the command processor batch job. If job option having the name of the command processor batch job does not exist, IMS Administration Tool uses the IMS command global options.

**Usage notes:**
- Job options and global options are not supported for IMS commands that are issued in a REDO BMP job or IMS command callable API application job.
Job options are not supported for IMS commands that are entered through the web or the ISPF user interface.

**Jobname/Jobmask Option**

The following information can be specified from the Job Options panel.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobname/Jobmask</td>
<td>Specify a jobname of 1 to 8 bytes or a mask of 1 to 8 bytes containing asterisks (*). Each * represents any valid character used for jobname.</td>
</tr>
</tbody>
</table>

**Command Retry Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts</td>
<td>IMS Administration Tool will retry unsuccessful database commands up to the number specified (0-99). If 00 is chosen, no retry is attempted. Use this parameter in conjunction with the Command Retry Interval.</td>
</tr>
<tr>
<td>Interval</td>
<td>IMS Administration Tool will wait to retry unsuccessful database commands for the specified number of seconds (from 1-999). If 000 is chosen, retry is attempted immediately. Use this parameter in conjunction with the Command Retry Attempts.</td>
</tr>
</tbody>
</table>

**Abend/RC Failure Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abend Code</td>
<td>For any error condition that should result in an abend of the executing job step, select a number from 0 through 4095 to specify the user completion code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>For any error condition that should not result in an abend of the executing job step, select a number from 0 through 4095 to specify the job step condition code.</td>
</tr>
</tbody>
</table>

**Failure Options - General**

You can instruct IMS Administration Tool how to handle any other unexpected error condition by specifying one of the following options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected return code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected return code.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>
Failure Options - Routing
You can instruct IMS Administration Tool how to handle IMS OM routing error conditions by specifying one of the following options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected error from using IMS OM.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected error from using IMS OM.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected error from using IMS OM.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

Failure Options - DFS0488I
You can instruct IMS Administration Tool how to handle an unacceptable return code by specifying one of the following options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after an unexpected return code.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after an unexpected return code.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after an unexpected return code.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignore the error.</td>
</tr>
</tbody>
</table>

Failure Options - DBRC
When option ABEND, Return Code, or Issue WTOR is selected, IMS Administration Tool verifies the state of the database in DBRC after /DBD and /DBR commands. The three options instruct IMS Administration Tool how to proceed if a database is still open with update intent by any subsystem after the commands have completed. Option NODBRC sets DBRC validation off.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend after a database command is issued which shows the database in an unexpected status.</td>
</tr>
<tr>
<td>Return Code</td>
<td>Set a non-zero job step condition code after a database command is issued which shows the database in an unexpected status.</td>
</tr>
<tr>
<td>Issue WTOR</td>
<td>Issue a WTOR and wait for an operator reply to determine the course of action after a database command is issued that shows the database in an unexpected status.</td>
</tr>
<tr>
<td>NODBRC</td>
<td>Do not use DBRC to verify the status of the database.</td>
</tr>
</tbody>
</table>
Database Options - Return Codes

If there are non-zero return codes that are acceptable for database commands, up to 20 non-zero return codes can be specified from DFS0488I messages, or up to 5 status codes can be returned from IMS OM. When IMS Administration Tool encounters one of these return codes, IMS Administration Tool treats the command as successfully completed.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid DFS0488I Return Codes</td>
<td>Specify 1-20 acceptable non-zero return codes.</td>
</tr>
<tr>
<td>Valid IMS OM Return Codes</td>
<td>Specify 1-5 acceptable non-zero return codes.</td>
</tr>
</tbody>
</table>

Database Options - /START DB ACCESS

If you want IMS Administration Tool to determine the database access mode when a /START DB command with the ACCESS=UP parameter is issued, specify one of the following three options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use SYSGEN</td>
<td>IMS Administration Tool reads your staging MODBLKS data set to determine access based on how the database stage 1 macro was coded.</td>
</tr>
<tr>
<td>Use DBRC</td>
<td>IMS Administration Tool reviews the output of a LIST.DB command to determine the access of the database.</td>
</tr>
<tr>
<td></td>
<td>If the database was defined with sharelvl(3), IMS Administration Tool issues /STA DB x ACCESS=UP on all systems.</td>
</tr>
<tr>
<td></td>
<td>If sharelvl (1 or 2), IMS Administration Tool issues /STA DB x ACCESS=UP on the primary IMS (where the BMP is attached or the IMSID for either DL/I or standard batch is defined) and issues /STA DB x ACCESS=R* on the remaining IMS regions.</td>
</tr>
<tr>
<td>As coded</td>
<td>IMS Administration Tool processes the command as it is coded.</td>
</tr>
</tbody>
</table>

Database Options - Question

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTO Database command?</td>
<td>For IMS/TM systems only, specify either Y or N if database commands should be displayed in SYSLOG through WTO.</td>
</tr>
</tbody>
</table>

Issuing IMS commands

You can issue IMS commands directly from the IMS Administration Tool ISPF interface.

Issue IMS commands overview

- IMS commands can be issued and routed to either an individual IMS or a group of IMS subsystems (IMS command group).
- Command groups associate a select number of IMS systems within an IMSplex.
Commands can then be issued and routed only to the members defined in the command group.

- IMS command groups can be defined to the command processor:

  **Setup and Administration > Define Groups**

- The command responses are displayed directly on the screen.

### Issue IMS Command reference

*Table 61. Issue IMS commands*

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSID/GROUP</td>
<td>Specify one of the following entries:</td>
</tr>
<tr>
<td></td>
<td>• Enter a 4 character IMS subsystem ID as defined to the command processor:</td>
</tr>
<tr>
<td></td>
<td><strong>Setup and Administration &gt; Register IMS Systems</strong></td>
</tr>
<tr>
<td></td>
<td>• Enter a 1-8 character IMS command group name as defined to the command processor:</td>
</tr>
<tr>
<td></td>
<td><strong>Setup and Administration &gt; Manage Groups</strong></td>
</tr>
<tr>
<td>IMS CMD</td>
<td>Specify an IMS command.</td>
</tr>
<tr>
<td></td>
<td>IMS type-1 and type-2 commands supported.</td>
</tr>
<tr>
<td></td>
<td>Example type-1 command:</td>
</tr>
<tr>
<td></td>
<td><code>/DIS DB ALL</code></td>
</tr>
<tr>
<td></td>
<td>Example type-2 command:</td>
</tr>
<tr>
<td></td>
<td><code>QUERY DB NAME(*) SHOW(ALL)</code></td>
</tr>
<tr>
<td></td>
<td>Command input is free form text.</td>
</tr>
<tr>
<td></td>
<td>Type-1 commands must be preceded by the CRC (command recognition character <code>/</code>).</td>
</tr>
<tr>
<td></td>
<td>Refer to the <em>IMS Command Reference</em> for command syntax and examples.</td>
</tr>
</tbody>
</table>

### View the IMS command log

IMS command logs record commands and associated command responses issued by users and batch utilities.

#### View the IMS command log overview

- IMS command log streams are associated with a particular IMS subsystem and are defined during IMS subsystem registration:

  **Setup and Administration > Register IMS Systems > Create > Register an IMS Subsystem > Command Processor Settings > Command Log Stream**

- IMS command log streams are optional.
- Specifying an IMS command log stream activates IMS Administration Tool command logging for the associated IMS subsystem.
- Alternatively, the single global IMS Administration Tool audit log can be configured to serve additionally as a command log for any IMS subsystem:

  **Setup and Administration > Global Settings > Audit Log**
By default, the audit log does not capture IMS commands and responses. When additionally specified as an IMS command log stream, the audit log adds IMS command logging to its capabilities.

The audit log and IMS command log streams are initially created during z/OS configuration and are defined as z/OS System Logger log stream data sets. System Logger is a z/OS component that provides a logging facility for applications that run in a single-system or multi-system sysplex.

**Command Log Selection**

- You can select the command log for a particular IMS subsystem. The IMSID filter allows you to control the list of IMS subsystems that display.
- The names in the Command Log Name list can be the single global IMS Administration Tool audit log stream or separately created IMS command log streams.
- If a command log archive job (ATYARCH0) runs while the command log is being viewed, gaps might be present in the log data. These gaps are caused by the archive job deleting log records before they have been read by the ISPF dialog. If this occurs, the missing log data can be found in the output data set created by the command log archive job.

**IMS Command Log Filters reference**

You can apply filter criteria to limit the number of records that are displayed. More log information is displayed when some or all filter fields are left blank.
Table 62. IMS Command Log Filters

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| IMSID | The IMSID filter is a 4 character ID of an IMS subsystem.  
The IMSID filter limits the displayed results to those command/response records that were issued to an individual IMSID through any source.  
Possible sources of commands include:  
**IMS**  
IMS  
**ICMD**  
Application program issuing an IMS ICMD (Issue Command) call  
**OTHR**  
Time Controlled Options (TCO)  
**VTAM**  
VTAM (Virtual Telecommunications Access Method) terminal  
**LU62**  
APPC (Advanced Program-to-Program Communication)  
**OTMA**  
Terminal connect to IMS through OTMA (Open Transaction Manager Access)  
**EMCS**  
Program acting as an EMCS (Extended Multiple Console Support) console  
**OMGR**  
IMS OM (Operations Manager)  
**Blank**  
MVS system console or IMS Master Terminal  
All commands issued through the IMS Administration Tool ISPF and Management Console interfaces are routed through OM. |
| OM Name | The OM Name filter is a 1-8 character name of an IMS Operations Manager address space.  
An Operations Manager address space can consist of many IMSIDs, as well as several other components.  
The OM Name filter limits the displayed results to those command/response records that were issued to all IMSIDs and components in the IMSplex through the specified OM only.  
All commands issued through the IMS Administration Tool ISPF and Management Console interfaces are routed through OM. |
| User | The displayed results are limited to those command records issued by the specified 1-8 character user ID.  
You can combine the User filter with either the IMSID filter or the OM Name filter. |
| Start Date | Date format: **yyyy/mm/dd**  
- **yyyy** is expressed as a 4-digit year.  
- **mm** is expressed as a 2-digit month between 01 and 12.  
- **dd** is expressed as a 2-digit day between 01 and 31.  
If specified, only messages logged on or after the specified date are available for viewing. |
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| Start Time   | Time format: hh:mm:ss  
  - *hh* is expressed as a 2-digit value for hours between 00 and 23.  
  - *mm* is expressed as a 2-digit value for minutes between 00 and 59.  
  - *ss* is expressed as a 2-digit value for seconds between 00 and 59.  
  **Note:** The values specified for hh, mm, and ss must be separated by a colon (:) character.  
  If specified, **Start Date** must also be specified. Any messages logged before the specified date and time are not available for viewing. |
| End Date     | Date format: yyyy/mm/dd  
  - *yyyy* is expressed as a 4-digit year.  
  - *mm* is expressed as a 2-digit month between 01 and 12.  
  - *dd* is expressed as a 2-digit day between 01 and 31.  
  If specified, messages logged after the specified date are not available for viewing. |
| End Time     | Time format: hh:mm:ss  
  - *hh* is expressed as a 2-digit value for hours between 00 and 23.  
  - *mm* is expressed as a 2-digit value for minutes between 00 and 59.  
  - *ss* is expressed as a 2-digit value for seconds between 00 and 59.  
  **Note:** The values specified for hh, mm, and ss must be separated by a colon (:) character.  
  If specified, **End Date** must also be specified. Any messages logged after the specified date and time are not available for viewing. |
Chapter 29. Using IMS Command Processor - batch processing

When the IMS Administration Tool command driver is run as a batch program, it can run as an IMS BMP, IMS DL/I batch, or standard z/OS batch job.

IMS commands are read from an input data set and processed one-at-a-time across all requested regions.

Topics:
- “IMS command batch processing overview” on page 185
- “IMS Command batch processing DD statements” on page 186
- “Runtime options for IMS command batch jobs” on page 187
- “ATYOPTS ddname input statements for IMS command batch job” on page 188
- “Creating a ddname table for IMS command batch job” on page 189
- “Error handling in a batch environment” on page 191

IMS command batch processing overview

When the IMS command processor of IMS Administration Tool runs as a batch program, it can run as an IMS BMP, IMS DL/I batch, or standard z/OS batch job.

The only significant difference between the types of batch jobs is how the IMS Administration Tool determines where to route the commands.

When the IMS command processor runs as a standard z/OS batch job, command routing is determined by the EXEC statement PARM specification, which can be one of the following specifications:

• //job-step EXEC PGM=ATYCMD00,PARM='IMSID=imsid'
• //job-step EXEC PGM=ATYCMD00,PARM='GROUP=ims-command-group-id'

When the IMS command processor is run as an IMS BMP or IMS DL/I batch job, command routing is determined by one of the following specifications. IMS Administration Tool looks for these specifications in the following order and applies the first one found.

1. 'GROUP=ims-command-group-id' in the EXEC PARM statement
   • DL/I batch

   //job-step EXEC PGM=DFSRRC00,
   PARM=(DLI,ATYCMD00,psb,,,,,,,,imsid,,dbrc,irlm,irlmnm,,,,
   'GROUP=ims-command-group-id')

   • BMP

   //job-step EXEC PGM=DFSRRC00,
   PARM=(BMP,ATYCMD00,psb,,,,,,,,imsid,,,,,'GROUP=ims-command-group-id')

   If you use a DLIBATCH or IMSBATCH procedure, specify APARM='GROUP=ims-command-group-id'.

2. The IMSID from the PARM statement

3. The IMSID in SDFSRESL(DFSVC000)

Sample JCL for each type of batch job can be found in the SATYSAMP sample library:

• Sample JCL for an IMS BMP is in member ATYBMP.
• Sample JCL for an IMS DL/I batch is in member ATYDLI.
• Sample JCL for a standard z/OS batch is in member ATYBATCH.

The following sample JCL member ATYBMP from the SATYSAMP sample library contains a few options specified for the ATYOPTS ddname input statement, including the PRESCAN option:

```
//ATYBMP    JOB  (TECH),ATYBMP,CLASS=A,MSGCLASS=H,
//      REGION=4M,NOTIFY=&SYSUID,COND=(0,NE)
//**
//**   THIS SAMPLE JCL WILL EXECUTE THE ATY/IMS COMMAND PROCESSOR
//**   AS AN IMS BMP JOB.
//**
//**   THE FOLLOWING CHARACTER STRINGS MUST BE TAILORED:
//**   ##ATYLOAD   - DEFINES THE DSN OF THE LOAD LIBRARY INTO WHICH
//**      ATY WAS INSTALLED (SATYLOAD).
//**   ##SDFSRESL  - MUST BE THE NAME OF YOUR IMS SDFSRESL.
//**   ##IMSID     - MUST BE THE NAME OF THE IMS WHERE THE BMP WILL
//**      ATTACH.
//**   ##PSB       - CAN BE ANY APPLCTN DEFINED IN THE IMS SYSGEN
//**      WITH THE GPSB= PARAMETER.
//**
//STEP01  EXEC PGM=DFSRRC00,
//      PARM='BMP,ATYCMD00,##PSB,,,,,,,,,,,##IMSID'
//STEPLIB  DD  DISP=SHR,DSN=##ATYLOAD
//         DD  DISP=SHR,DSN=##SDFSRESL
//SYSABEND DD  SYSOUT=*  
//ATYLIST  DD  SYSOUT=*  
//ATYOPTS  DD  *
//PRESCAN=YES NOFEOV=YES SETRC=16
//**
//ATYSYSIN DD  *
//STA DB DI21PART ACCESS UP
```

**IMS Command batch processing DD statements**

IMS Administration Tool uses the following DD statements to control product behavior. Some statements are required, some are optional, and some are dynamically allocated.

### Required DD statements

The following DD statements are required.

**STEPLIB DD**  
Specify the following loadlib data sets:

- IMS Administration Tool SYSLOAD data set containing the ATY#OPTS and ATYSTFWD load modules. For details of the SYSLOAD data set and these load modules, see “Configure VSAM options data set” on page 26 and “Command store/forward: Configure” on page 28.

- IMS Administration Tool product loadlib data set or IMS Tools combined loadlib COMBLOAD data set. The COMBLOAD data set is created by IMS Tools Setup and it contains IMS Administration Tool load modules.

- IMS RESLIB data set

- IMS MDA library that contains RECON data set names. This library is required if you specify to use DBRC in the IMS command global options and omit RECON1, RECON2, and RECON3 DD statements.

**ATYSYSIN DD**  
An input physical-sequence data set with an LRECL that ranges from 80 to 121 bytes.

This DD statement references the data set that contains the list of commands that IMS Administration Tool is to process.

**ATYLIST DD**  
An output physical-sequence data set where IMS Administration Tool writes the command results and responses.
This data set must be the same LRECL as ATYSYSIN. This DD statement is typically coded as:

```
//ATYLIST DD SYSOUT=*  
```

**Optional DD statements**
The following DD statements are optional.

RECON1 DD
RECON2 DD
RECON3 DD
RECON data sets of the IMS subsystem. These DD statements are used only when you specify to use DBRC in the IMS command global options.

ATYOPTS DD
An input physical-sequence data set that is used to provide runtime options for this particular batch job.

Options that are specified on this DD statement override the options that are specified in the IMS Administration Tool options data set.

This data set must be defined as LRECL=80.

**Dynamically allocated DD statement**

ATYJOPRT DD
An output print data set that is dynamically allocated.

This data set lists the options that are in effect for the running of this job.

Use the following DD statement if you do not want this list to be created:

```
//ATYJOPRT DD DUMMY  
```

**Runtime options for IMS command batch jobs**
You can use IMS command global options to define certain processing characteristics for all jobs.

You can override most processing options by defining the IMS command job options.

The global options can be overridden by the IMS command job options or by specifying ATYOPTS ddname input statements.

Any options that are specified in ATYOPTS will override any previously specified processing options.

**ddname input and output specification**

At run time when searching for ddname values, IMS Administration Tool uses the following sequence to look up specific batch job ddnames to use for input and output:

1. ATYOPTS ddname input statement:
   - You can use the ATYOPTS ddname input statements to specify ddnames by using these parameters:
     - DDNINP
     - DDNOUT
   - If the DDNINP and DDNOUT parameters and the ddnames are present in the JCL, they are used when the batch job is processed. For example:

```
//STEP01 EXEC PGM=ATYCMD00
//LEM DD .......
//LIME DD SYSOUT=*  
```
2. IMS command global options:
   You can use the global options to specify the ddnames to use for batch job input and output data.
   To use a single set of ddnames, specify the name of the input and output ddname in the global options.
3. ddname table (ATYDDTBL):
   You can create a ddname table to hold the multiple ddname listings.
   Sample JCL is located in the SATYSAMP member ATYDDTBL.

**ATYOPTS ddname input statements for IMS command batch job**

When you run an IMS command batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), you can use ATYOPTS ddname input statements to override values in the IMS command job options record and global options record.

The values that are specified for DDNINP and DDNOUT are used if the specified names are present in the batch job JCL. If ddnames are not present in the batch job JCL, the batch job input and output ddnames are obtained from the options data set or from the ddname table, ATYDDTBL.

The following table lists the ATYOPTS ddname input statements and describes the valid values.

<table>
<thead>
<tr>
<th>ATYOPTS ddname input statements</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEND</td>
<td>Abend code</td>
<td>0 - 4095</td>
</tr>
<tr>
<td>CHKDBALL</td>
<td>Analyze Database/AREA command output when the ALL parameter is used</td>
<td>Y or N</td>
</tr>
<tr>
<td>DATAGRPEXP</td>
<td>Expand DATAGRP commands</td>
<td>Y or N</td>
</tr>
<tr>
<td>DBACCESS</td>
<td>/START DB ACCESS</td>
<td>SYSGEN. DBRC, or ASIS</td>
</tr>
<tr>
<td>DBRC</td>
<td>DBRC errors</td>
<td>ABEND, SETRC, WTOR, or NODBRC</td>
</tr>
<tr>
<td>DDNINP</td>
<td>DD name of the command input data set</td>
<td>ddname</td>
</tr>
<tr>
<td>DDNOUT</td>
<td>DD name of the command output data set</td>
<td>ddname</td>
</tr>
<tr>
<td>DFS0488I</td>
<td>Valid DFS0488I return codes</td>
<td>Up to 20 two-character return codes. Specify them without blank characters. For example, 01204584.</td>
</tr>
<tr>
<td>ERR488</td>
<td>DFS0488I errors</td>
<td>ABEND, SETRC, WTOR, or IGNORE</td>
</tr>
</tbody>
</table>
## Table 63. ATYOPTS ddname input statements: definition and values (continued)

<table>
<thead>
<tr>
<th>ATYOPTS ddname input statements</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERR3466</td>
<td>Treat DFS3466I as an error</td>
<td>Y or N</td>
</tr>
<tr>
<td>GENERAL</td>
<td>General errors</td>
<td>ABEND, SETRC, WTOR, or IGNORE</td>
</tr>
<tr>
<td>MODFAIL</td>
<td>/ATYMOD failures</td>
<td>ABEND or SETRC</td>
</tr>
<tr>
<td>MODREVERSE</td>
<td>/ATYMOD commit reversal</td>
<td>Y or N</td>
</tr>
<tr>
<td>NOFEOV</td>
<td>Add NOFEOV to /DBD and /DBR</td>
<td>Y or N</td>
</tr>
<tr>
<td>PRESCAN</td>
<td>Use DB pre-scan for remote-STC</td>
<td>Y or N</td>
</tr>
<tr>
<td>RETRYATT</td>
<td>Attempts</td>
<td>0 - 99</td>
</tr>
<tr>
<td>RETRYSEC</td>
<td>Interval</td>
<td>0 - 999</td>
</tr>
<tr>
<td>ROUTING</td>
<td>Routing errors</td>
<td>ABEND, SETRC, WTOR, or IGNORE</td>
</tr>
<tr>
<td>SETRC</td>
<td>Return code</td>
<td>0 - 4095</td>
</tr>
<tr>
<td>SYNTAXERR</td>
<td>Use GENERAL error option when IMS returns a DFS107I message</td>
<td>Y or N</td>
</tr>
<tr>
<td>WTODBCMD</td>
<td>WTO database command</td>
<td>Y or N</td>
</tr>
</tbody>
</table>

## Creating a ddname table for IMS command batch job

You can create a ddname table to hold multiple ddname listings.

### About this task

The ddname table defines a list of valid ddname values for IMS command batch jobs of IMS Administration Tool.

Complete the following steps to create and load a ddname table:

### Procedure

1. Locate the sample JCL in the SATYSAMP member ATYDDTBL.
2. Copy ATYDDTBL to your working library.
3. Open ATYDDTBL in your working library in edit mode.
4. Type a valid JOB statement for your installation.
   - Replace ACCT with a valid account name for your environment.
   - Optionally, set REGION equal to 0.
5. Modify the SET SATYSAMP= statement to specify the data set name of your SATYSAMP.
6. Modify the SET SATYLOAD= statement to specify the data set name of your load library.
7. Customize the assembler macros that follow the SYSIN DD statement of the ASMA90 step to meet your requirements.
The ATYDD macro supplies the ddnames that you want to search for in each batch job.

IMS Administration Tool searches the JCL of each job until it finds one of the ddnames that are specified in a ATYDD macro.

You can use the ATYDD macro with the options that are shown in the following table:

### Table 64. ATYDD options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELP</td>
<td>Use the HELP option to have information displayed in your assembly output. This macro is typically coded as:</td>
</tr>
<tr>
<td></td>
<td>ATYDD HELP=[YES</td>
</tr>
<tr>
<td>ddname specification</td>
<td>Use the TYPE= and DD= keywords to specify the ddnames to be searched for. The ddname can be an input or an output value. This macro is typically coded as:</td>
</tr>
<tr>
<td></td>
<td>ATYDD TYPE=[OUTPUT</td>
</tr>
<tr>
<td>BUILD</td>
<td>The BUILD option is required as the last statement in your input stream to properly generate and build the object module. This macro is typically coded as:</td>
</tr>
<tr>
<td></td>
<td>ATYDD BUILD=YES</td>
</tr>
</tbody>
</table>

8. Copy member ATYDDTBL into the STEPLIB of all IMS Administration Tool batch jobs.

**Example**

The SATYSAMP data set includes a sample job in member ATYDDTBL that you can customize.
Error handling in a batch environment

IMS Administration Tool takes specific action for the different categories of errors that can occur in a batch environment.

When IMS Administration Tool command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), you might encounter errors that fall into one of the following categories:

- **General**
  A general error occurs when IMS Administration Tool fails to edit a command.

- **Routing**
  A routing error occurs when a command fails due to routing problem. This error is viewed by IMS Administration Tool as an IMS region being unavailable.

- **DFS0488I**
  The DFS0488I error is issued when a command that changes the state of a database/AREA fails to perform the required action.

  This error is typically caused by IMS Administration Tool not receiving an acceptable return code on a DFS0488I/ATY0488I message.
You can specify whether or not IMS Administration Tool treats a DFS3466I/ATY3466I (database/AREA not defined) as an error condition in the global record by using the ISPF dialog, or by using the ERR3466 parameter in the ATYOPTS ddname input statement.

- **DBRC**
  
  The DBRC error occurs if a subsystem record in the RECON has the database/AREA open with update intent after a /DBD or /DBR command.
  
  **Note:** IMS Administration Tool DBRC verification does not work in a DBRC environment that utilizes the RECON loss notification option unless user exit DSPSCIX0 provides the name of the XCF group.

IMS Administration Tool allows each error category to be handled by the following actions:

- **Abend**
  
  Action: Terminate the batch job with the specified abend code.

- **Return code**
  
  Action: Terminate the batch job with the specified return code.

- **WTOR**
  
  Action: Issue a WTOR and allow operator intervention to determine course of action.

- **Ignore**
  
  Action: Continue processing the next command as if no error had occurred.

(For DBRC, this option is specified as DBRC=NODBRC.)
Chapter 30. Predefined procedures and commands

IMS Administration Tool predefined procedures can perform complete tasks with the entry of a single input command.

IMS Administration Tool provides two predefined procedures, automated online change processing and dead letter queue cleanup. These procedures automate tasks that might normally be performed by a master terminal operator (MTO).

Restriction: IMS Administration Tool does not support the features provided by the command list processors of IMS Command Control Facility.

Topics:
• “Predefined procedures overview” on page 193
• “Automated online change processing (/ATYMOD)” on page 193
• “Dead letter queue cleanup (/ATYDEADQ)” on page 194
• “/ATYWAIT command” on page 195

Predefined procedures overview

IMS Administration Tool predefined procedures can perform complete tasks with the entry of a single input command.

IMS Administration Tool provides two predefined procedures that can be used by the IMS Administration Tool command driver:

• Coordinated online change.

IMS Administration Tool can perform an online change across multiple systems by supplying a single command to the IMS Administration Tool batch job.

Coordinated online change is valid from a batch environment only.

This process coordinates the online change across multiple systems and minimizes the potential of out-of-sync conditions that might occur when online change is performed manually.

• Dead letter queue cleanup.

IMS Administration Tool can clean up any dead letter queue entries by supplying a single command to the IMS Administration Tool batch job.

Dead letter queue cleanup is valid in all command routing environments (batch, ISPF, and callable API).

Automated online change processing (/ATYMOD)

Automated online change processing synchronizes the online change process across multiple IMS regions and reduces out-of-sync conditions.

Automated online change is allowed only when the command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch).

Command format:

```
/ATYMOD imsparm killconv deqtran
```

**imsparm**

Specifies the type of online change. Parameters can be found in `/MOD PREPARE` command of the *IMS Operator's Reference* manual.
**killconv**
Specifies KILLCONV to have IMS Administration Tool terminate any IMS conversations that are preventing online change from completing.

**deqtran**
Specifies DEQTRAN to have IMS Administration Tool dequeue any transactions that are preventing online change from completing.

The following commands are issued during the automated online change process:

1. Issue /DIS MODIFY ALL on each IMS system.
2. Issue /MOD PREPARE xxx on each IMS system.
3. Issue /DIS MODIFY ALL on each IMS system.
   - If the NO WORK PENDING message is received for each IMS system, IMS Administration Tool continues with Step 4.
   - If the NO WORK PENDING message is not received, IMS Administration Tool performs the KILLCONV and DEQTRAN processing, if specified.
     - If the NO WORK PENDING message is still not received, IMS Administration Tool aborts the online change.
4. Issue /MOD COMMIT on each system.
5. Issue /DIS MODIFY ALL on each IMS system to verify that changed libraries now use the proper ddnames.

If the online change fails, IMS Administration Tool terminates the batch job using the option defined in the MODFAIL parameter, as specified either in the global options record or the ATYOPTS ddname input statement.

If Step 4 was successful for some, but not all members of a command group, parameter MODREVERSE is used to inform IMS Administration Tool how to proceed.

- If MODREVERSE=NO is specified or defaulted to, IMS Administration Tool terminates the job based upon the MODFAIL parameter.
- If MODREVERSE=YES is specified, IMS Administration Tool attempts to reverse the online change on the IMS systems where it was successful.
- The MODREVERSE parameter can be specified in either the global record or the ATYOPTS ddname input statement.

**Note:** Discretion must be used before deciding to use MODREVERSE=YES, particularly for ACBLIB changes. Backing out DMB changes might cause unexpected impact on database integrity.

---

**Dead letter queue cleanup (/ATYDEADQ)**

You can use the dead letter queue cleanup to manage your IMS message queue utilization. The dead letter queue cleanup process can replace a cold start or manual efforts by the MTO to cleanup unwanted messages.

Dead letter queue cleanup is allowed when the command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch), from ISPF dialog or from the callable API.

Command format:

```
/ATYDEADQ
```

The process implements the following commands for each IMS system:

1. Issue /DIS POOL QBUF
2. Issue /DIS USER DEADQ
3. Based on output from the proceeding command, the process performs the following actions for each displayed user that is not currently allocated:
   • Issue /STO USER xxxx
   • Issue /DEQ USER xxxx PURGE
   • Issue /STA USER xxxx
4. Issue /DIS POOL QBUF
   This command displays message queue utilization both before and after this process.

/ATYWAIT command

IMS Administration Tool provides the /ATYWAIT command to support the command driver in a batch environment.

/ATYWAIT can be used when the command driver runs as a batch job (IMS BMP, IMS DL/I batch, or standard z/OS batch).

Command format:

/ATYWAIT nn

The /ATYWAIT command causes IMS Administration Tool to wait the number (nn) of seconds specified in the command parameter.

Valid values for nn are 1 through 10.

If an invalid value is entered, IMS Administration Tool waits five seconds by default.
Chapter 31. Command processor API

An external application program can call the IMS Administration Tool command driver by using an application programming interface module called ATYCAPI0.

The command driver routes the IMS command to the specified IMSID or command group and presents command responses to the calling program.

Topics:
• “Command processor API overview” on page 197
• “Invoking ATYCAPI0: Assembler example” on page 197
• “Invoking ATYCAPI0: COBOL example” on page 201
• “Invoking ATYCAPI0: REXX example” on page 202
• “Command processor API interface block” on page 205

Command processor API overview

An external application program can call the IMS Administration Tool command driver by using an application programming interface module called ATYCAPI0.

The ATYCAPI0 subroutine can be called by any application program that must issue IMS type-1 or type-2 commands. The subroutine routes the IMS command to the specified IMSID or command group and presents command responses to the calling program.

When run as the callable API, ATYCAPI0, the IMS Administration Tool command driver runs only as a command router. The driver routes the command to one or more IMS systems and returns the command responses to the calling program.

The driver does not perform any of the special processing functions described for the command driver when it runs as a batch program. It is the responsibility of the calling program to perform the analysis of the command responses.

Any application can issue IMS commands and get all output with minimal interface requirements. The application must use the IMS Administration Tool callable API interface block and specify the following basic call types:
• CMD (issue command)
• GCMD (get response)
• TERM (cleanup call type)

Invoking ATYCAPI0: Assembler example

You can invoke ATYCAPI0 from an assembler program using the following example as a model.

ATYCAPI0 expects the caller to pass the address of the IMS Administration Tool API interface block using standard linkage conventions.

See member ATYAPIAS in SATYMACS for the following source.
**ATYAPIAS TITLE 'SAMPLE ASSEMBLER PROGRAM TO ISSUE COMMANDS'**

**********************************************************************
* THIS SAMPLE ASSEMBLER PROGRAM USES THE ATY CALLABLE INTERFACE  *
* TO ISSUE COMMANDS. THE PROGRAM READS A RECORD FROM DDNAME       *
* SYSIN, CALLS THE ATY COMMAND CALLABLE INTERFACE TO ISSUE THE    *
* COMMAND, AND THEN WRITES ALL OF THE RESPONSES TO DDNAME         *
* SYSPRINT. THE PROGRAM REPEATS THE PROCESS UNTIL ALL RECORDS     *
* FROM THE DDNAME SYSIN HAVE BEEN READ.                           *
**********************************************************************

ATYAPIAS CSECT
ATYAPIAS AMODE 31
ATYAPIAS RMODE ANY

BAKR R14,0
LR R12,R15
USING ATYAPIAS,R12
USING SAVWKA,R13
LA R3,SAVWKALL
LR R13,R2
XR R15,R15
MVCL R2,R14           ZEROES TO SAVE/WORK AREA
MVC 4(L'F1SA,R13),=A(F1SA)  LINKAGE STACK IN USE
F1SA EQU C'F1SA',4
MVI OUTCC,X'40'      OUTPUT CARRIAGE CONTROL

* LOAD EP=ATYCAPI0      LOAD ATY API
STCM R0,15,@SUB       SAVE ADDR OF ATY API

* OPNINP DS 0H
MVC XXDCBINP(LLDCBINP),MMDCBINP       DCB TO WORKAREA
MVC XXOPNINP(LLOPNINP),MMOPN       OPEN MAC TO WORKAREA
OPEN (XXDCBINP),MODE=31,MF=(E,XXOPNINP)
LTR R15,R15       OPEN OK?
BNZ RETURN       NONZERO - NOT OK

* OPNPRT DS 0H
MVC XXDCBPRT(LLDCBPRT),MMDCBPRT       DCB TO WORKAREA
MVC XXOPPNPRT(LLOPNPRT),MMOPN       OPEN MAC TO WORKAREA
OPEN (XXDCBPRT,OUTPUT),MODE=31,MF=(E,XXOPPNPRT)
LTR R15,R15       OPEN OK?
BNZ RETURN       NONZERO - NOT OK

* GET CMD INPUT ROUTINE

* GETINP DS 0H
GET XXDCBINP,INPREC       GET A RECORD

---

* Figure 15. Invoking ATYCAPI0: Assembler example (ATYAPIAS) (Part 1 of 3)
TYPECMD EQU C'CMD ',4
MVC AOITYPE,=AL4(TYPECMD) ISSUE API CMD
MVC AOIDEST,INPDEST EITHER IMSID OR GROUP
MVC AOINAME,INPNAME NAME OF IMSID/GROUP
LA R0,AOIDATA CMD TEXT GOES HERE
LA R1,L'AOIDATA MAX LENGTH (256)
LA R14,INPDATA SOURCE OF INP CMD
LA R15,L'INPDATA ACTUAL LENGTH OF INP CMD
ICM R15,B'1000',=X'40' PAD IT WITH SPACES
MVCL R0,R14 MOVE TO INTF BLOCK
* ICM R15,15,@SUB ADDR OF ATY API
CALL (15),ATYAPIIB,MF=(E,PLSUB) CALL API NOW
* MVC OUTDATA,AOIDATA FILL OUTPUT AREA
PUT XXDCBPRT,OUTREC PRINT IT NOW
GETRSP DS OH
TYPEGCMD EQU C'GCMD',4
MVC AOITYPE,=AL4(TYPEGCMD) API GET A RESPONSE
ICM R15,15,@SUB ADDR OF ATY API
CALL (15),ATYAPIIB,MF=(E,PLSUB) CALL API NOW
LTR R15,R15 NOT ZERO MEANS NO RESP
BNZ GETINP TIME FOR MORE INPUT
MVC OUTDATA,AOIDATA FILL OUTPUT AREA
PUT XXDCBPRT,OUTREC PRINT IT NOW
B GETRSP GET ANOTHER RESPONSE
* GETINPX DS OH COME HERE AT END OF FILE
* TYPETERM EQU C'TERM',4
MVC AOITYPE,=AL4(TYPETERM) ISSUE API - CLEANUP
ICM R15,15,@SUB ADDR OF ATY API
CALL (15),ATYAPIIB,MF=(E,PLSUB) CALL API NOW
* DELETE EP=ATYCAPI0 DELETE MODULE NOW
XC @SUB,@SUB CLEAR ITS OLD ADDR
* RETURN DS OH DELETE MODULE NOW
STCM R15,15,RETCODE SAVE REG15
* CLOSE INPUT
* CLSINP DS OH
TM XXDCBINP+DCBFLGS-IHADCB,DCBOFOPN STILL OPEN?
BZ CLSINPX CLOSE (XXDCBINP),MODE=31,MF=(E,XXOPNINP)
CLSINPX DS OH
* CLOSE OUTPUT
* CLSPRT DS OH
TM XXDCBPRT+DCBFLGS-IHADCB,DCBOFOPN STILL OPEN?
BZ CLSPRTX CLOSE (XXDCBPRT),MODE=31,MF=(E,XXOPNPRT)
CLSPRTX DS OH

Figure 16. Invoking ATYCAPIO: Assembler example (ATYAPIAS) (Part 2 of 3)
XIT DS 0H
ICM R2,15,RETCODE
LA R3,SAVWKALL
STORAGE RELEASE,ADDR=(R13),LENGTH=(R3)
LTR R15,R2
* LTORG
* MMOPN OPEN (,),MODE=31,MF=L
MMDCBPRT DCB DDNAME=SYSPRINT,
DSORG=PS,MACRF=PM,RECFM=FBA,LRECL=L'AOIDATA+1
MMDCBINP DCB DDNAME=SYSIN,
DCBE=MMDCEINP,
DSORG=PS,MACRF=GM,RECFM=FB,LRECL=80
MMDCEINP DCBE EODAD=GETINPX
* YREGS
LTORG
* * COMBO SAVE AND WORK AREA
*
SAWKA DSECT
SAVEAREA DS 18F
RETCODE DS F
@SUB DS A
PLSUB DS F ONLY 1 PARM NEEDED FOR THIS CALL
* *
* THIS DSECT IS USED TO MAP THE AREA PASSED TO THE
* CALLABLE AOI.
* *
* ATYAPIIB DS 0D
AOITYPE DS CL4 CALL TYPE
* CMD, GCMD OR TERM
AOIRETCD DS CL4
AOIRSNCD DS CL4
AOIDEST DS CL8 CMD DESTINATION IMSID OR GROUP
AOINAME DS CL8 DESTINATION NAME
AOIRESV DS CL24 RESERVED
AOIDATA DS CL256 I/O AREA
* XXOPNINP OPEN (,),MODE=31,MF=L
LLOPNINP EQU -*XXOPNINP
XXDCBINP DBC DSORG=PS,MACRF=GM
LDDCBINP EQU -*XXDCBINP
* XXOPNPRT OPEN (,),MODE=31,MF=L
LLOPNPRT EQU -*XXOPNPRT
XXDCBPRT DBC DSORG=PS,MACRF=PM
LDDCBPRT EQU -*XXDCBPRT
* OUTREC DS 0CL1
OUTCC DS CL1
OUTDATA DS CL(L'AOIDATA)
* INPREC DS 0CL80
INPDEST DS CL8
INPNAME DS CL8
INPDATA DS CL(INPDLEN)
INPDLEN EQU L'INPREC-(INPDATA-INPREC)
* SAVWKALL EQU -*SAWKA
* DCBD DSORG=DA
IHADCBE
* END ATYAPIAS

Figure 17. Invoking ATYCAPI0: Assembler example (ATYAPIAS) (Part 3 of 3)
Invoking ATYCAPI0: COBOL example

You can invoke ATYCAPI0 from a COBOL program using the following example as a model.

ATYCAPI0 expects the caller to pass the address of the IMS Administration Tool API interface block by using standard linkage conventions.

See member ATYAPICB in SATYMACS for the following source.

```cobol
IDENTIFICATION DIVISION.
PROGRAM-ID. ATYAPICB.
ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

  SELECT CTL-IN
  ASSIGN TO UT-S-SYSIN.

  SELECT PRT-OUT
  ASSIGN TO UT-S-SYSPRINT.

DATA DIVISION.

FILE SECTION.

FD CTL-IN
RECORDING MODE IS F
LABEL RECORDS STANDARD
BLOCK CONTAINS 00 RECORDS.
  01 CTL-IN-REC.
    05 CTL-IN-DEST             PIC X(08).
    05 CTL-IN-NAME             PIC X(08).
    05 CTL-IN-DATA             PIC X(64).

FD PRT-OUT
RECORDING MODE IS F
LABEL RECORDS STANDARD
BLOCK CONTAINS 00 RECORDS.
  01 PRT-OUT-REC.
    05 PRT-OUT-CC              PIC X(1).
    05 PRT-OUT-DATA            PIC X(256).

WORKING-STORAGE SECTION.

  77 ATYCAPI0                    PIC X(8) VALUE 'ATYCAPI0'.
  77 TYPECMD                     PIC X(4) VALUE 'CMD'.
  77 TYPEGCMD                    PIC X(4) VALUE 'GCMD'.
  77 TYPETERM                    PIC X(4) VALUE 'TERM'.
  01 ATYAPIIB.
    05 AOITYPE                 PIC X(4).
    05 AOIRETCMD                PIC X(4).
    05 AOIRSNCD                 PIC X(4).
    05 AOIDEST                  PIC X(8).
    05 AOINAME                  PIC X(8).
    05 AOIRESV                  PIC X(24).
    05 AOIDATA                  PIC X(256).

PROCEDURE DIVISION.

  000-MAINLINE.
    OPEN INPUT CTL-IN.
    OPEN OUTPUT PRT-OUT.
  100-GETINP.
```

Figure 18. Invoking ATYCAPI0: COBOL example (ATYAPICB) (Part 1 of 2)
Invoking ATYCAPI0: REXX example

You can invoke ATYCAPI0 from a REXX procedure using the following example as a model.

ATYCAPI0 expects the caller to pass the address of the IMS Administration Tool API interface block by using standard linkage conventions.

See member ATYAPIRX in SATYMACS for the following source.
ADDRESS MVS

CMD.0 = 0
"EXECIO 0 DISKR ATYIN (STEM CMD. OPEN)"
if (rc ¬= 0) then
  do
    say 'ATYIN Open failure RC =' RC
    signal ccfret
  end

ATYRD:
ADDRESS MVS
/*
/* READS A RECORD FROM ATYIN DD AND EXECUTES THE COMMAND
/*
/*
"EXECIO 1 DISKR ATYIN (STEM CMD.)"
if (rc = 2) then signal ccfend /* EOF */
if (rc ¬= 0) then *
  do
    say 'ATYIN Read failure RC =' RC
    signal ccfret
  end
SAY 'ATYIN Record:'
SAY CMD.1
AOIDEST = SUBSTR(CMD.1,1,8)
AOINAME = SUBSTR(CMD.1,9,8)
AOIDATA = SUBSTR(CMD.1,17,54)
APIIB = 'CMD ' /* AOITYPE */
APIIB = INSERT( ' ',APIIB,4,8,' ')
APIIB = INSERT(AOIDEST,APIIB,12,8,' ')
APIIB = INSERT(AOINAME,APIIB,20,8,' ')
APIIB = INSERT(AOIDATA,APIIB,52,256,' ')

Figure 20. Invoking ATYCAPI0: REXX example (ATYAPIRX) (Part 1 of 2)
ADDRESS LINKPGM "ATYCAPI0  APIIB"
if (rc ≠ 0) then
  do
    say 'ATYCAPI0 NON-ZERO RC =' RC
    cmdret = substr(apiib,52,256)
    say cmdret
    signal ccfrd
  END
  cmdret = substr(apiib,52,256)
  say cmdret

ATYGCMD:
  /*
  /* RETRIEVE RESULTS OF THE COMMAND
  /*
  */
  APIIB = INSERT('GCMD',APIIB,0,4,' ')    /* AOITYPE */
  ADDRESS LINKPGM "ATYCAPI0  APIIB"
if (rc ≠ 0) then
  DO
    APIIB = INSERT('TERM',APIIB,0,4,' ')    /* AOITYPE */
    ADDRESS LINKPGM "ATYCAPI0  APIIB"
    signal ccfrd
  END
  cmdret = substr(apiib,52,256)
  say cmdret
  signal ccfgrcmd

ATYEND:
  /*
  /* EOF
  /*
  */
  SAY 'ATYIN End of File'

ATYRET:
  return

Figure 21. Invoking ATYCAPI0: REXX example (ATYAPIRX) (Part 2 of 2)

This REXX procedure can be invoked from batch using the following sample JCL as a model:
Command processor API interface block

The following table provides details for the callable API interface block.

<table>
<thead>
<tr>
<th>Field</th>
<th>Field Type</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOITYPE</td>
<td>Supplied</td>
<td>4</td>
<td>Specify one of the following character call types padded to 4 bytes with spaces:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• CMD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Issue IMS command</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• GCMD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Get IMS command response</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• TERM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cleanup</td>
</tr>
</tbody>
</table>

Chapter 31. Command processor API 205
<table>
<thead>
<tr>
<th>Field</th>
<th>Field Type</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOIRETCD</td>
<td>Returned</td>
<td>4</td>
<td>4 byte binary return code from ATYCAPI0.</td>
</tr>
<tr>
<td>AOIRSNCD</td>
<td>Returned</td>
<td>4</td>
<td>4 byte binary return code from ATYCAPI0.</td>
</tr>
<tr>
<td>AOIDEST</td>
<td>Supplied</td>
<td>8</td>
<td>Specify one of the following character command destination types padded to 8 bytes with spaces:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• IMSID</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The command should be routed to a specific IMS system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• GROUP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The command should be routed to all IMS systems defined for a ATY group.</td>
</tr>
<tr>
<td>AOINAME</td>
<td>Supplied</td>
<td>8</td>
<td>If IMSID is specified for AOIDEST, caller must initialize this field with a 4 character IMSID padded to eight characters with spaces.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If GROUP is specified for AOIDEST, caller must initialize this field with a one to eight character command group name padded to eight characters with spaces.</td>
</tr>
<tr>
<td>AOIRESV</td>
<td>Reserved</td>
<td>24</td>
<td>24 bytes reserved for use by ATYCAPI0.</td>
</tr>
<tr>
<td>AOIDATA</td>
<td>Supplied/Returned</td>
<td>256</td>
<td>If the AOITYPE call type is CMD, then this field should be initialized by the caller to the IMS command padded to 256 bytes with spaces. The actual command cannot be longer than 252 bytes. IMS Administration Tool requires the last four bytes to contain spaces.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Upon return from the CMD call, this field will either be spaces or contain a message from ATYCAPI0 of up to 256 bytes (padded with spaces).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If the AOITYPE call type is GCMD, then this field will contain up to 256 bytes (padded with spaces) if the return code in AOIRETCD is zeroes. Otherwise the contents of this field should be ignored.</td>
</tr>
</tbody>
</table>

Table 65. Callable API interface block (continued)
Part 9. Troubleshooting

IMS Administration Tool issues messages and codes that can help you to diagnose and correct problems that you experience with the product.

Topics:

- Chapter 32, “Messages and codes,” on page 209
- Chapter 33, “Wildcard support,” on page 317
- Chapter 34, “Gathering diagnostic information,” on page 321
Chapter 32. Messages and codes

The following topics describe messages and abend codes of IMS Administration Tool.

Topics:
- “Messages (ATY0 - ATY9)” on page 209
- “Messages (ATYA - ATYZ)” on page 302
- “Abend codes” on page 314

Messages (ATY0 - ATY9)

IMS Administration Tool issues messages that can help you understand the status of the infrastructure and help you resolve errors.

Message format

IMS Administration Tool messages adhere to the following format:

\[ \text{ATYnnn}x \]

Where:

\( \text{ATY} \)
Indicates that the message was issued by IMS Administration Tool

\( \text{nnnn} \)
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.

<table>
<thead>
<tr>
<th>ATY0100W</th>
<th>FOLLOWING RECORD FAILED EDITING</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ATY/IMS editing failed while trying to analyze the command. The character string is not recognized as an</td>
<td></td>
</tr>
</tbody>
</table>
IMS type 1 or type 2 command, nor is it a valid IMS name.

**System action**
The action taken depends upon the setting for GENERAL errors. The following GENERAL error settings and actions are possible:

**WTOR**
This record is skipped and processing continues as if no error were encountered.

**SETRC**
Terminate the job step using the user-defined return code.

**ABEND**
Terminate the job step using the user-defined abend code.

**IGNORE**
This record is be skipped and processing continues as if no error were encountered.

**User response**
Correct the command, and run the job again.

**ATY0105I** /ATYWAIT OR /CCFWAIT VALUE MUST BE 1-10

**Explanation**
A /ATYWAIT or /CCFWAIT control card was read but an invalid wait interval was specified.

**System action**
IMS Administration Tool will wait a default 5 seconds and then resume processing.

**User response**
None. This message is informational.

**ATY0106E** IMS PLEX NAME MIS-MATCH DETECTED

**Explanation**
A configuration error has been encountered. To issue commands to a IMS Administration Tool group using IMS Operations Manager, all IMS records must be defined with the same Operations Manager (PLEX) name.

**System action**
The job terminates using the user-defined abend code.

**User response**
Correct the condition described by the AIB return code and reason codes. If assistance is required, contact IBM Software Support.

**ATY0110E** AIB INQY CALL ERROR, RC=rc, REASON=rsn

**Explanation**
Program ATYCMD00 encountered an error while processing an INQY ENVIRON call. The AIB return code is displayed as rc and the reason code as rsn.

**System action**
The job terminates with the user-defined abend code.

**User response**
Correct the condition described by the AIB return code and reason codes. If assistance is required, contact IBM Software Support.

**ATY0111E** ERROR OPENING DD NAME ddn

**Explanation**
An error occurred while trying to open a data set with the DDNAME of ddn. Check the job log for additional messages.
System action
The action taken depends upon the setting for GENERAL errors. If SETRC is specified for GENERAL errors, the job terminates using the user-defined return code. Otherwise the job terminates with the user-defined abend code.

User response
Correct the condition causing the failure and run the job again.

**ATY0112E**  
**ddn** HAS LRECL GREATER THAN MAXIMUM

Explanation
The data set represented by **ddn** has an LRECL that is greater than 121 bytes. Valid record lengths for the input data set are from 80 to 121 bytes.

System action
The action taken depends upon the setting for GENERAL errors. If SETRC is specified for GENERAL errors, the job terminates using the user-defined return code. Otherwise the job terminates using the user-defined abend code.

User response
Reallocate the data set with a valid LRECL and run the job again.

**ATY0113E**  
**ddn** HAS LRECL LESS THAN MINIMUM

Explanation
The data set represented by **ddn** has an LRECL that is less than 80 bytes. Valid record lengths for the input data set are from 80 to 121 bytes.

System action
The action taken depends upon the setting for GENERAL errors. If SETRC is specified for GENERAL errors, the job terminates using the user-defined return code. Otherwise the job terminates using the user-defined abend code.

User response
Reallocate the data set with a valid LRECL and run the job again.

**ATY0114E**  
OPEN FAILED FOR STORE/FORWARD DATA SET, **RC=rc**

Explanation
An error occurred trying to open the store/forward data set. Field **rc** contains the return code from the OPEN.

System action
Processing continues, but the command store/forward function is not active for this job.

User response
Make sure the command store/forward installation completed successfully.

**ATY0115E**  
DYNALLOC FAILED FOR: **dsn**

Explanation
Dynamic allocation failed for the command store/forward data set, **dsn**.

System action
Processing continues, but the command store/forward function is not active for this job.

User response
Make sure the command store/forward installation completed successfully.

**ATY0150I**  
FOLLOWING RECORD READ FROM: **ddn**

Explanation
The data in the next line of output was read from DDNAME **ddn**.

System action
Processing continues.

User response
None. This message is informational.

**ATY0201E**  
ERROR ENCOUNTERED PROCESSING OPTIONS DATA SET

Explanation
An error was encountered by the callable interface module, ATYCAPI0. Additional error messages should be obtained by calling ATYCAPI0 with the GCMD parameter.
System action
Return code of 12 is set and control is returned to the calling program.

User response
Obtain additional error messages using the ATYCAPI0 GMCD call. However, since this is likely a recurring error, no calls other than the GCMD should be attempted.

ATY0202E NAME/TOKEN CREATE FAILED, RC=rc
Explanation
An error was encountered trying to create a z/OS name token entry.

System action
Return code of 12 is set and control is returned to the calling program.

User response
This is likely a recurring error, so no other calls should be attempted.

ATY0203W INVALID OPTION SPECIFIED IN AOITYPE PARAMETER
Explanation
The data passed in parameter field AOITYPE is invalid.

System action
The invalid message is skipped, return code 4 is set, and control is returned to the calling program.

User response
Correct the invalid data in the AOITYPE field and retry the operation.

ATY0204W INVALID DATA SPECIFIED IN AOINAME PARAMETER
Explanation
The data passed in parameter field AOINAME is invalid.

System action
The invalid message is skipped, return code 4 is set, and control is returned to the calling program.

User response
Correct the invalid data in the AOINAME field and retry the operation.

ATY0205W INVALID DATA SPECIFIED IN AOIDEST PARAMETER
Explanation
The data passed in parameter field AOIDEST is invalid.

System action
The invalid message is skipped, return code 4 is set, and control is returned to the calling program.

User response
Correct the invalid data in the AOIDEST field and retry the operation.

ATY0206W NO ATY GROUP RECORDS FOUND IN OPTIONS DATA SET
Explanation
Field AOIDEST requested command routing to a IMS Administration Tool group, but there are no group records defined in the options data set.

System action
Return code 4 is set and control is returned to the calling program.

User response
Add a group record using the IMS Administration Tool user interface, or correct the parameter and retry the operation.

ATY0207W GROUP NAME = grpname NOT FOUND IN OPTIONS DATA SET
Explanation
grpname not defined as a IMS Administration Tool group in the options data set.

System action
Return code 4 is set and control is returned to the calling program.

User response
Add the IMS Administration Tool group grpname using the IMS Administration Tool user interface, or correct the name specified for grpname and retry the operation.
**Explanation**

Field AOIDEST requested command routing to a specific IMSID, but the data in field AOINAME was more than four bytes long. IMS Administration Tool limits the length of an IMS name to four bytes.

**System action**

Return code 4 is set and control is returned to the calling program.

**User response**

Correct the name in AOINAME and retry the operation.

---

**Explanation**

Some of the IMS members of a IMS Administration Tool group are defined to use a different Operations Manager name. If a member of a IMS Administration Tool group is defined to use Operations Manager for its command routing technique, then all members must use the same Operations Manager name.

**System action**

Return code 4 is set and control is returned to the calling program.

**User response**

Correct the routing technique information in the IMS records using the IMS Administration Tool user interface and retry the operation.

---

**Explanation**

One or more IMS members of a IMS Administration Tool group was defined to use Operations Manager as its command routing technique, but one or more IMS members were defined to use a command routing technique other than Operations Manager. If Operations Manager is used by an IMS for its command routing technique, all IMS members of the IMS Administration Tool group must use the same Operations Manager.

**System action**

Return code 4 is set and control is returned to the calling program.
User response
Correct the routing technique information in the IMS records using the IMS Administration Tool user interface and retry the operation.

**ATY0214W COMMAND REJECTED, COMMAND IS RESTRICTED**

**Explanation**
The command passed in field AOIDATA is not allowed from the callable API.

**System action**
Return code 4 is set and control is returned to the calling program.

**User response**
Do not attempt to issue restricted commands.

**ATY0215W INVALID DATA IN COMMAND, OR UNKNOWN IMS SPECIFIED**

**Explanation**
IMS Administration Tool was not able to determine the content of the AOIDATA field.

**System action**
Return code 4 is set and control is returned to the calling program.

**User response**
Review the data that was passed to the callable API. If the data is valid, contact IBM Software Support.

**ATY0216W COMMAND FAILED EDITING**

**Explanation**
A bad return code was received from module ATYEDIT0. ATYEDIT0 should have returned a descriptive message indicating the nature of the error.

**System action**
Return code 4 is set and control is returned to the calling program.

**User response**
Review the message returned from ATYEDIT0, correct the problem, and retry the operation.

**ATY0217W ERROR ENQUIRED IN COMMAND WILDCARD PROCESSING**

**Explanation**
An internal error occurred when processing a command that contains a wildcard character.

**System action**
Skips the command and continues from the next command.

**User response**
If any other error messages are issued before this message, follow the user response for those messages. If no error messages are issued before this message, contact IBM Software Support.

**ATY0218W BAD RETURN CODE FROM COMMAND DRIVER**

**Explanation**
A bad return code was received from module ATYEXEC0. ATYEXEC0 should have returned a descriptive message indicating the nature of the error.

**System action**
Return code 4 is set and control is returned to the calling program.

**User response**
Review the message returned from ATYEXEC0, correct the problem, and retry the operation.

**ATY0219E INQY CALL ERROR, AIB RC=rc RSN=rsn**

**Explanation**
A non-zero return code was received when making an IMS AIB call.

**System action**
Return code 12 is set and control is returned to the calling program.

**User response**
Find the AIB return code and reason codes in IMS Messages and Codes, fix the problem identified by the codes, and retry the operation.

**ATY0220E INPUT COMMAND LONGER THAN 252 BYTES**

**Explanation**
An application program called the IMS Administration Tool AOI with an input command (AOIDATA) longer
than 252 bytes. IMS Administration Tool requires the command be 252 bytes, or less, with the last four bytes of AOIDATA containing spaces.

**System action**
A return code 12 is returned to the calling program, and the command is ignored.

**User response**
Correct the command, and run the job again.

**ATY0301I** COMMAND DISALLOWED BY IMS SECURITY

**Explanation**
IMS determined the user ID attempting this command is not authorized.

**System action**
Command is bypassed.

**User response**
Verify that the user ID attempting this command has proper authorization. If the user should be able to execute this command, correct the security definition, and retry the operation.

**ATY0302E** DBRC MODULE DSPURX00 NOT FOUND, BYPASSING DBRC PROCESSING

**Explanation**
DBRC has been requested for either DB verification, or to set ACCESS, but the DBRC load module is not found.

**System action**
The action taken is determined by the DRBC= option.

**User response**
If DBRC usage is required, add IMS SDFSRESL to the STEPLIB. If DBRC usage is not required, set options DBRC=NODBRC.

**ATY0306I** NO MODBLKS DDNAME, DRD ASSUMED FOR imsid

**Explanation**
IMS Administration Tool assumes that dynamic resource definition (DRD) is used in the indicated IMS.

**ATY0308W** END OF TABLE ENCOUNTERED BUILDING DBRC DB TABLE

**Explanation**
Option DBACCESS=DBRC was requested, but more databases than expected were found when processing the output of a LIST.DB command. The remaining databases will not be added to the DBRC table.

**System action**
The job step continues.

**User response**
The maximum size of the table might need to be increased. Contact IBM Software Support for information.

**ATY0317E** MODBLKS READ ROUTINE FAILED

**Explanation**
Option DBACCESS=GEN was requested, but an error was encountered attempting to read the MODBLKS data set.

**System action**
The job will terminate based upon the setting for GENERAL errors. If GENERAL=SETRC, the job will terminate using the value set in SETRC. Otherwise, the job terminates using the user-defined abend code.

**User response**
Using the IMS Administration Tool user interface, ensure the IMS System Information in the IMS record is defined correctly.

**ATY0329I** COMMAND EXECUTING ON: imsid

**Explanation**
The following command will execute on the displayed IMS (ims).

**System action**
The job continues processing.
User response
N/A

**ATY0330E**  ERROR IN ONLINE CHANGE INITIALIZATION, FUNCTION TERMINATING

**Explanation**
An unexpected error occurred while trying to save pre-online change information for all IMS Administration Tool group members.

**System action**
Online change command processing is terminated.

**User response**
Correct the problem preventing online change from occurring and resubmit the command.

**ATY0331E**  AN ERROR HAS BEEN ENCOUNTERED, ONLINE CHANGE TERMINATING

**Explanation**
An unexpected error occurred while trying to issue /MODIFY PREPARE commands to all IMS Administration Tool group members.

**System action**
Both messages ATY0331E and ATY0336E are displayed and the online change command processing terminates abnormally.

**User response**
Correct the problem preventing the online change command from occurring and resubmit the command.

**ATY0332E**  AN ERROR HAS BEEN ENCOUNTERED, ONLINE CHANGE TERMINATING

**Explanation**
An unexpected error occurred while checking for NO WORK PENDING on all IMS Administration Tool group member systems.

**System action**
Both messages ATY0332E and ATY0337E are displayed and online change command processing terminates abnormally.

**User response**
Correct the problem preventing the online change command from occurring and resubmit the command.

**ATY0334I**  MODIFY ABORT PROCESSING INITIATED

**Explanation**
An unexpected error occurred during the online change process.

**System action**
Online change command processing is terminated and /MODIFY ABORT commands will be issued to all IMS Administration Tool group members.

**User response**
Correct the problem preventing the online change command from occurring and resubmit the command.

**ATY0335E**  ONLINE CHANGE FAILED - OPERATOR INTERVENTION MAY BE REQUIRED

**Explanation**
An unexpected error occurred while trying to issue /MODIFY ABORT commands to all IMS Administration Tool group member systems.

**System action**
Online change processing terminates abnormally.

**User response**
Operator intervention will be required to correct and restore all systems to pre-online change conditions.

**ATY0338E**  ONLINE CHANGE TERMINATED, ERROR DURING MOD COMMIT PROCESSING

**Explanation**
An unexpected error occurred while trying to issue /MODIFY COMMIT commands to all IMS Administration Tool group member systems.

**System action**
Both messages ATY333E and ATY0338E are displayed and online change command processing terminates abnormally.
User response
Correct the problem preventing the online change from occurring and resubmit the command.

**Explanation**
An unexpected error occurred while trying to process this command during Dead Letter Queue cleanup.

**System action**
Dead Letter Queue cleanup processing is skipped for this particular IMS region.

**User response**
Resubmit the command. Contact IBM Software Support if problem persists.

**ERROR ENCOUNTERED**

**ERROR ENCOUNTERED**

**ERROR ENCOUNTERED**

**ERROR ENCOUNTERED**

**ERROR ENCOUNTERED**

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System action
Dead Letter Queue cleanup processing is skipped for this particular IMS region.

User response
Resubmit the command. Contact IBM Software Support if problem persists.

ATY0351E ERROR ENCLOSED, ACTION DETERMINED BY ERROR FLAG: flag

Explanation
A recurring error has been encountered and identified by a prior message. This message states which error option (flag) is used to determine how the job will proceed.

System action
The action taken is determined by the setting for error option flag.

User response
Follow the User Response for the prior error message.

ATY0355W COMMAND BYPASSED DUE TO OPERATOR RESPONSE

Explanation
An operator replied to a WTOR command, causing IMS Administration Tool to skip the prior error.

System action
The system continues processing.

User response
A review may be required to determine whether the command still needs to be issued.

ATY0356W COMMAND BYPASSED DUE TO ERR488=IGNORE SPECIFICATION

Explanation
Even though a database command failed to receive a positive response, processing continues due to option ERR488=IGNORE specification.

System action
The system continues processing.

User response
Review the prior response messages and determine whether the command still needs to be issued.

ATY0357E REGION TERMINATING, MAXIMUM RETRY ATTEMPTS EXCEEDED

Explanation
The maximum number of command retries has been reached. The reason for command failure is described in a prior message.

System action
The job step terminates abnormally.

User response
Correct the condition causing the error and retry the command. Contact IBM Software Support if the error persists.

ATY0358E REGION TERMINATING, PERMANENT ERRORS ENCOUNTERED AND MAX RETRIES

Explanation
Recurring errors have been experienced and the maximum number of command retries has been reached.

System action
The action taken is determined by the setting for GENERAL errors.

User response
Correct the condition causing the error and retry the command. Contact IBM Software Support if the error persists.

ATY0359I COMMAND BEING ATTEMPTED AGAIN DUE TO OPERATOR RESPONSE

Explanation
An operator reply to a WTOR specified that command retry should be attempted.

System action
The job step resumes processing after the reply to the WTOR.
User response
No further action is required.

**ATY0361E** DATAGRP ERROR, JOB TERMINATING, ERR488=ABEND SPECIFIED

**Explanation**
An error was encountered when processing an IMS command with the DATAGROUP keyword. The reason for the error should be identified in a prior message.

**System action**
The action taken is determined by the setting for ERR488 errors.

**User response**
Correct the problem described in the prior message. Then resubmit the command.

**ATY0362E** DATAGRP ERROR, JOB TERMINATING, ERR488=IGNORE NOT SPECIFIED

**Explanation**
An error was encountered when processing an IMS command with the DATAGROUP keyword. The reason for the error should be identified in a prior message.

**System action**
The action taken is determined by the setting for ERR488 errors.

**User response**
Correct the problem described in the prior message. Then resubmit the command.

**ATY0371E** ERROR ATTEMPTING DBRC VALIDATION, VALIDATION BYPASSED

**Explanation**
An error described by a prior message was encountered during DBRC validation.

**System action**
DBRC validation is not performed and the job will proceed as determined by the prior error condition.

**User response**
Follow User Response described in prior error message.

**ATY0372E** DB OPEN FOR SSID= ssid ACC= access DBD= database

**Explanation**
An IMS /DBD or /DBR command was issued and DBRC validation was requested, but one or more databases are registered in the RECON as being open with UPDATE intent.

- SSID= shows the subsystem that is using the database
- ACC= shows the processing intent
- DBD= shows the database

**System action**
The action taken is determined by the setting for DBRC errors.

**User response**
Review prior messages and determine if the command needs to be reissued.

**ATY0373E** DB OPEN FOR SSID= ssid ACC= access DBD= database AREA= area

**Explanation**
An IMS /DBD or /DBR command was issued and DBRC validation was requested, but one or more areas are registered in the RECON as being open with UPDATE intent.

- SSID= shows the subsystem that is using AREA
- ACC= shows the processing intent
- DBD= shows the database
- AREA= shows the AREA name

**System action**
The action taken is determined by the setting for DBRC errors.

**User response**
Review prior messages and determine if the command needs to be reissued.

**ATY0374I** NO DATABASES OPEN WITH UPDATE INTENT

**Explanation**
DBRC shows that all database commands executed successfully.
The job step continues processing.

N/A

DBRC shows that all database commands executed successfully.

The action taken is determined by the setting for DBRC errors.

Issue IMS command /RML DRBC='DB DBD(dbd) DBDS' to determine which job has the database open.

The prior command failed on all systems and is therefore not saved in the store/forward data set. In order for a command to be eligible for command store/forward processing, it must be successfully processed on at least one system.

Processing continues, but the prior command is not saved in the store/forward data set.

Determine whether the failed command needs to be manually entered for all failed systems.

The following command encountered routing errors on IMS (ims) and is saved in the store/forward data set for subsequent processing.

The failed command is written to the store/forward data set and processing continues.

None. This message is informational.

None. This message is informational.

None. This message is informational.

An error has been encountered during /ATYMOD processing after at least one system had completed
the online change and option MODREVERSE=Y is in effect.

**System action**

/MODIFY ABORT commands are issued to all systems where the online change has not completed, and IMS Administration Tool reverses the online change for any system where the online change was successful.

**User response**

Determine the reason for the online change failure, correct it, and resubmit the command.

**Explanation**

This is an information message that accompanies one of many different error messages. The message identifies the routing information coded on the IMS record of the options data set.

**System action**

N/A

**User response**

Correct the problem identified by the accompanying message and, if required, run the job again.

**Explanation**

A database command was issued using the ICMD/RCMD AOI in the local IMS. Because the local BMP cannot perform the simulated DFS0488I status checking, ATY/IMS assumes that the command processed successfully.

**System action**

Processing continues.

**User response**

If the simulated DFS0488I status checking is required, perform one of the following tasks:
- Run the ATY/IMS job as an IMS DL/I job.
- Run the ATY/IMS job as a standard z/OS batch job.

**Explanation**

An unexpected error occurred while trying to issue a command using the local ICMD call. The IMS AIB return code (rc) and reason code (rsn) are displayed in the message.

**System action**

The job step may terminate abnormally, depending upon what options are in effect for the job.

**User response**

Determine the cause of the error by reviewing the AIB return and reason codes in *IMS Messages and Codes*, correct the error, and retry the command.

**Explanation**

An unexpected error occurred while trying to retrieve a command response using the local RCMD call. The IMS AIB return code (rc) and reason code (rsn) are displayed in the message.

**System action**

The job step may terminate abnormally, depending upon what options are in effect for the job.

**User response**

Determine the cause of the error by reviewing the AIB return and reason codes in *IMS Messages and Codes*, correct the error, and retry the command.

**Explanation**

DBRC validation has been requested, but one or more databases are still registered in the RECON and open with update intent. This message is accompanied by ATY0450A.

**System action**

Processing continues.

**User response**

N/A

**Explanation**

An unexpected error occurred while trying to issue a command using the local RCMD call. The IMS AIB return code (rc) and reason code (rsn) are displayed in the message.
Explanation
This message accompanies one or more messages, issued previously, that describe the error encountered.

System action
Action taken depends upon the response to this message.

User response
Review the accompanying messages and reply to the WTOR accordingly.

ATY0451E  DATA BASE COMMAND UNSUCCESSFUL

Explanation
A database command did not execute successfully. This message is accompanied by additional messages.

System action
Processing continues.

User response
Review the accompanying messages.

ATY0452I  cmd

Explanation
The database command (cmd) that did not execute successfully is displayed.

System action
Processing continues.

User response
N/A

ATY0455I  cmd

Explanation
The command (cmd) that did not execute successfully is displayed.

System action
Processing continues.

User response
N/A

ATY0488I  cmd COMMAND COMPLETED type dbd RC=rc

Explanation
This is a simulated DFS0488I response. It is in response to a command that changes the state of a database or AREA. The cmd indicates the command that is being attempted. The type indicates whether the command is being entered for a database (DBN=) or an AREA (AREA=). The dbd is the name of the database or AREA. The rc is the return code. When rc is 0, the command processed as you requested. Otherwise, the return code is set to 99.

System action
Processing continues.

User response
N/A

ATY0501E  SYSPRINT MUST BE DYNAMICALLY ALLOCATED
Explanation
DDNAME SYSPRINT is coded in the job JCL. The SYSPRINT DDNAME must be dynamically allocated for IMS Administration Tool to perform any DBRC options.

System action
If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response
Remove the SYSPRINT DDNAME from the JCL, or do not use any IMS Administration Tool DBRC options, and run the job again.

ATY0502E SYSIN MUST BE DYNAMICALLY ALLOCATED

Explanation
DDNAME SYSIN is coded in the job JCL. The SYSIN DDNAME must be dynamically allocated for IMS Administration Tool to perform any DBRC options.

System action
If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response
Remove the SYSIN DDNAME from the JCL, or do not use any IMS Administration Tool DBRC options, and run the job again.

ATY0503E ddn DYNAMIC ALLOCATION ERROR, RC=rc REASON=rsn

Explanation
Dynamic allocation failed for DDNAME ddn. The return code (rc) and reason code (rsn) identify the cause of the failure.

System action
If option DBRC=SETRC is specified, the job step terminates with the user-defined return code; otherwise the job terminates with the user-defined abend code.

User response
Correct the cause of the failure and run the job again.

ATY0701E DYNAMIC ALLOCATION FAILED, RC=rc REASON=rsn

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**Explanation**

An error occurred during dynamic allocation. The return (rc) and reason (rsn) codes indicate the nature of the failure. The data set name will be displayed in a subsequent message.

**System action**

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

**User response**

Fix the problem that caused the dynamic allocation failure and run the job again.

---

**ATY0702E**  
DYNAMIC ALLOCATION FAILED, DSN=dsn

**Explanation**

Dynamic allocation failed for the data set name dsn. A prior message provides additional information regarding the dynamic allocation failure.

**System action**

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

**User response**

Fix the problem that caused the dynamic allocation failure and run the job again.

---

**ATY0703E**  
OPEN FAILED FOR DATA SET: dsn

**Explanation**

An error occurred trying to open data set named dsn.

**System action**

The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

**User response**

Fix the problem that caused the dynamic allocation failure and run the job again.

---

**ATY0704E**  
ver IS AN UNSUPPORTED VERSION

**Explanation**

This is a ATY/IMS internal error.
System action
The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response
Fix the problem that caused the dynamic unallocation failure and run the job again.

ATY0801E INTERNAL ERROR, DATA BASE TABLE OVERFLOW

Explanation
An unexpected condition occurred. This is probably a logic error in the program.

System action
The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response
Contact IBM Software Support.

ATY0802E ims -LOAD FAILED: dsn

Explanation
Option DBACCESS=GEN is in effect for this job, but IMS Administration Tool was unable to load the MODBLKS members from the specified data set name (dsn). This problem is probably a setup error in the IMS record for the specified IMS system (ims).

System action
The action taken depends on the options set for this job. The job terminates with the user-defined abend code or the user-defined return code.

User response
Use the IMS Administration Tool user interface to verify that the IMS record is defined with the correct IMS System Information.

ATY1200W INVALID COMMAND: cmd

Explanation
IMS Administration Tool was unable to identify the data (cmd) read from the input data set.

System action
The action taken is determined by the setting for GENERAL errors.

User response
Correct the command and run the job again.

ATY1201W INVALID KEYWORD LENGTH IN FOLLOWING COMMAND:

Explanation
The keyword specified on the command is longer than IMS Administration Tool allows.

System action
The action taken is determined by the setting for GENERAL errors.

User response
If the command is not valid, correct the command and run the job again. If a valid command is being attempted, contact IBM Software Support.

ATY1202W INVALID PARAMETER LENGTH IN FOLLOWING COMMAND:

Explanation
A parameter specified on the command is longer than IMS Administration Tool allows.

System action
The action taken is determined by the setting for GENERAL errors.

User response
If the command is not valid, correct the command and run the job again. If a valid command is being attempted, contact IBM Software Support.

ATY1203W /ATYMOD OR /CCFMOD CANNOT BE ROUTED TO A SPECIFIC IMSID

Explanation
The command requested /ATYMOD or /CCFMOD be routed to a specific IMS system. IMS Administration Tool does not support routing the /ATYMOD or /CCFMOD command to a specific IMS system.

System action
The action taken is determined by the setting for GENERAL errors.

User response
Correct the command and run the job again.
**ATY1204E**  **ERROR ENCOUNTERED**  **DETERMINING DATABASE ACCESS**

**Explanation**
The ACCESS keyword was specified but command parsing failed to find the parameter value.

**System action**
The action taken is determined by the setting for GENERAL errors.

**User response**
Correct the command and run the job again.

**ATY1205E**  **INVALID DATABASE ACCESS REQUESTED: acc**

**Explanation**
An invalid parameter was specified for database access. The command parser determined that acc was the access specified in the command. Valid parameter values are RO, RD, UP, or EX.

**System action**
The action taken is determined by the setting for GENERAL errors.

**User response**
Correct the invalid command and run the job again.

**ATY1206E**  **NO VALID DATABASE NAMES FOUND IN COMMAND**

**Explanation**
After command parsing completed, there were no database names in the command.

**System action**
The action taken is determined by the setting for GENERAL errors.

**User response**
Correct the non-valid command and run the job again.

**ATY1207E**  **UNABLE TO DETERMINE COMMAND TYPE**

**Explanation**
The command parser failed to recognize the command being attempted.

**ATY1208E**  **TYPE 2 CMD ENTERED, BUT NOT ALL IMS SYSTEMS USE OM FOR CMD ROUTING**

**Explanation**
A type 2 IMS command was entered, but not all of the IMS systems in the IMS Administration Tool group use Operations Manager for their command routing technique.

**System action**
Processing continues.

**User response**
Use the IMS Administration Tool user interface to change all members of the IMS Administration Tool group to use Operations Manager as the command routing technique. Alternatively, do not enter type 2 IMS commands.

**ATY1209E**  **INVALID PARAMETER SPECIFICATION ON UPDATE COMMAND**

**Explanation**
The command parser failed to recognize the command keyword.

**System action**
The action taken is determined by the setting for GENERAL errors.

**User response**
If the command appears correct, contact IBM Software Support. Otherwise, correct the command and run the job again.

**ATY1210W**  **GLOBAL/LOCAL BOTH SUPPLIED, GLOBAL IGNORED**
Both the GLOBAL and LOCAL parameters were specified on a database command. The GLOBAL parameter will be discarded.

System action
Processing continues.

User response
Correct the command to eliminate this message.

ATY1211W ACCESS INVALID ON GLOBAL COMMAND, ACCESS IGNORED

Both the ACCESS and GLOBAL parameter were specified on a database command. The ACCESS parameter will be discarded.

System action
Processing continues.

User response
Correct the command to eliminate this message.

ATY1212E FUNCTION INVALID OR MISSING FOR ATYMOD or CCFMOD REQUEST

Command parsing found an invalid parameter, or there were no parameters specified.

System action
The action taken is determined by the setting for GENERAL errors.

User response
Correct the command and run the job again. Alternatively, issue the commands manually.

ATY1216E EDIT ERROR IN PRIOR COMMAND, JOB IS TERMINATING

The command parsing routine encountered an error in the previous command. The job terminates due to the setting of the GENERAL errors option.

System action
The job terminates with a user-defined abend code or user-defined return code.

User response
Correct the error and run the job again.

ATY1218W BOTH ALL AND GLOBAL SUPPLIED, GLOBAL REMOVED

A database command contained both the ALL and GLOBAL parameters. These parameters are mutually exclusive; both cannot be specified on the same command.

System action
The GLOBAL parameter is removed from the command and processing continues.

User response
To eliminate this error message, correct the command before running this job again.
ATY1219E  NO PARAMETERS ARE ALLOWED ON THE /ATYDEADQ OR /CCFDEADQ COMMAND

Explanation
Parameters were supplied on the /ATYDEADQ or /CCFDEADQ command. No parameters are allowed on this command.

System action
The action taken is determined by the setting for GENERAL errors.

User response
Correct the command and run the job again.

ATY1220E  LTERM KEYWORD SUPPLIED BUT LTERM NAME MISSING

Explanation
The ATYMOD predefined procedure was requested and the LTERM keyword was supplied, but the LTERM parameter was missing.

System action
The action taken is determined by the setting for the GENERAL errors.

User response
Remove the LTERM keyword, or supply an LTERM parameter name, and run the job again.

ATY1221E  LTERM NAME MORE THAN EIGHT CHARACTERS LONG

Explanation
An invalid value was supplied for the LTERM name parameter. The LTERM name must be less than eight characters long.

System action
The action taken is determined by the setting for the GENERAL errors.

User response
Correct the invalid LTERM name parameter and run the job again.

ATY1222W  DATAGRPG datagrp NOT FOUND

Explanation
DATAGRPEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGRP not being defined or the wrong set of RECON data sets in the STEPLIB concatenation.

System action
The command is passed unchanged to IMS.

User response
Turn off DATAGRPEXP, define the DATAGRP to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

ATY1223E  DATAGRPG KEYWORD PRESENT BUT NO DATAGRPG NAMES SPECIFIED

Explanation
The command parser determined a DATAGROUP command was being attempted with DATAGRPEXP=Y in effect, but the command did not specify the DATAGROUP parameter name.

System action
The command is passed unchanged to IMS.

User response
Correct the command and run the job again.

ATY1224E  DATAGRPG KEYWORD PRESENT BUT MORE THAN 1 DATAGRPG NAME SPECIFIED

Explanation
The command parser determined a DATAGROUP command was being attempted with DATAGRPEXP=Y in effect, but the command specified more than one DATAGROUP parameter name.

System action
The command is passed unchanged to IMS.

User response
Correct the command and run the job again.

ATY1225W  DATAGRPG datagrp RECEIVED RETURN CODE = rc FROM DSPURX00
Explanation
The command parser determined a DATAGROUP command was being attempted with DATAGRPEXP=Y in effect, but a non-zero return code was returned from DSPURX00. Additional messages might be displayed on the z/OS Syslog.

System action
The command is passed unchanged to IMS.

User response
Correct the reason for the non-zero return code and run the job again.

ATY1229W INTERNAL ERROR, SYSPRINT DATA SET NOT OPEN

Explanation
An error occurred attempting to open DDNAME SYSPRINT. Additional messages might be displayed on the z/OS Syslog.

System action
The command is passed unchanged to IMS.

User response
Correct the reason for the open failure and run the job again.

FOLLOWING DATABASES FOUND FOR DATAGRP: datagrp

Explanation
DATAGRPEXP=Y is in effect and the following records list the databases that were defined to DATAGROUP datagrp in DBRC.

System action
Processing continues.

User response
Correct the command and run the job again.

NO DATABASES RETURNED FOR DATAGRP: datagrp

Explanation
DATAGRPEXP=Y is in effect but there were no database names found in the named DATAGROUP datagrp.

System action
Processing continues.

User response
N/A
**Explanation**

An error, described by a previous message, has been encountered. This command requires a response to inform IMS Administration Tool how to handle this error, and possibly future errors, for this job step.

**System action**

The action taken is dependent upon the operator response to this WTOR.

**User response**

Reply to the WTOR with the valid character for the required action.

---

**ATY1233E**

**DATAGRP ERROR, JOB TERMINATING, ERR488=IGNORE NOT SPECIFIED**

**Explanation**

An error, described by a previous message, has been encountered, and the setting for ERR488 errors causes this job step to terminate.

**System action**

The job step terminates with a user-defined return code.

**User response**

Correct the error described in the previous message and run the job again.

---

**ATY1234E**

**DATAGRP ERROR, JOB TERMINATING, ERR488=ABEND SPECIFIED**

**Explanation**

An error, described by a previous message, has been encountered, and the setting for ERR488 errors causes this job to abend.

**System action**

The job terminates with the user-defined abend code.

**User response**

Correct the error described in the previous message and run the job again.

---

**ATY1235W**

**DATAGRP NAME LONGER THAN 8 CHARACTERS**

**Explanation**

The command parser determined the name of the specified DATAGROUP is more than eight characters. Eight characters is the maximum allowed for DATAGROUP names.

**System action**

The command is passed unchanged to IMS.

**User response**

Correct the DATAGROUP parameter name and run the job again.

---

**ATY1236W**

**PARM CONFLICT, BOTH IMS AND SCOPE(ACTIVE) SPECIFIED - IMS IGNORED**

**Explanation**

The command parser detected conflict in the following command. The command was requested to be routed to a specific IMS and to all active Operations Manager members.

**System action**

The IMS routing is ignored and the command is passed to all active Operations Manager members.

**User response**

To eliminate this message, correct the command prior to running this job again.

---

**ATY1237W**

**BOTH OPEN AND NOOPEN SPECIFIED, NOOPEN DISCARDED**

**Explanation**

Mutually exclusive OPEN and NOOPEN parameters were specified on the input command.

**System action**

Because the OPEN and NOOPEN parameters cannot be specified on the same command, IMS Administration Tool removed the NOOPEN parameter and continued processing.

**User response**

To eliminate this message in subsequent schedules of IMS Administration Tool, correct the control card by removing either the OPEN or NOOPEN parameter.
**Explanation**
IMS Administration Tool Operations Manager initialization exit was unable to open DDNAME PROCLIB. Additional messages might be displayed in the z/OS log.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Correct the reason for the open failure and restart IMS Operations Manager.

**ATY2202E**  
**ATYLOGR INITIALIZATION FAILED**

**Explanation**
An error, described by a previous message, prevented IMS Administration Tool from completing initialization to the IMS Administration Tool Message Log.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Follow User Response for the previous error message.

**ATY2203E**  
**PROCLIB MEMBER ATYPARMS NOT FOUND**

**Explanation**
The member IMS Administration Tool needs for IMS Administration Tool Message Log initialization is not present in the data set referenced by DDNAME PROCLIB.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Create the required PROCLIB member and restart IMS Operations Manager.

**ATY2204W**  
**INVALID RECORD, NO DATA IN POSITION 1-10**

**Explanation**
A record that failed editing was read from PROCLIB member ATYPARMS.

**System action**
The record is ignored and processing continues.

**User response**
To eliminate this message, correct or remove the erroneous record before the next Operations Manager start up.

**ATY2205W**  
**UNKNOWN RECORD TYPE FOUND IN ATYPARMS - data**

**Explanation**
A record that contained unknown data was read from PROCLIB member ATYPARMS. The first few bytes of data from the erroneous record are displayed as data.

**System action**
The record is ignored and processing continues.

**User response**
To eliminate this message, correct or remove the erroneous record before the next Operations Manager start up.

**ATY2206E**  
**ATYLOGR= NOT SPECIFIED**

**Explanation**
IMS Administration Tool Operations Manager initialization exit did not find a control card ATYLOGR= in PROCLIB member ATYPARMS. The ATYLOGR= control card is not valid.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Add or correct the ATYLOGR= definition in PROCLIB member ATYPARMS and restart Operations Manager.

**ATY2207E**  
**ATYLOGR NAME NOT SPECIFIED**

**Explanation**
IMS Administration Tool Operation Manager found control card ATYLOGR= but there was no parameter name specified.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.
User response
Add the IMS Administration Tool Message Log log stream name to the ATYLOGR= control card and restart Operations Manager.

**ATY2208E ATYLOGR NAME LONGER THAN 26 BYTES**

**Explanation**
The log stream name specified as the ATYLOGR= parameter in the PROCLIB member ATYPARMS is longer than the maximum allowed. The maximum length of a log stream name is 26 bytes.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Correct the IMS Administration Tool Message Log log stream name in the ATYLOGR= control card and restart Operations Manager.

**ATY2209E NAME/TOKEN ROUTINE ERROR RC=rc**

**Explanation**
An error was encountered attempting to create a z/OS name/token anchor. The return code is displayed as rc.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Correct the reason for the name/token creation failure and restart Operations Manager.

**ATY2210E LOGSTREAM CONNECT FAILED**

**Explanation**
The connect attempt to the IMS Administration Tool Message Log log stream failed. A prior message should indicate the reason for the failure.

**System action**
Processing continues, but without the IMS Administration Tool Message Log.

**User response**
Correct the failure described in the prior message and restart Operations Manager.

**ATY2299I LOGSTREAM CONNECT SUCCESSFUL**

**Explanation**
IMS Administration Tool message log initialization completed successfully.

**System action**
Processing continues.

**User response**
N/A

**ATY3001I Return Code: rc Reason Code: rsn**

**Explanation**
This message is presented with an accompanying message that describes the error condition. rc indicates the return code and rsn indicates the reason code.

**System action**
The job terminates with the indicated return code.

**User response**
Review the conditions that caused the error. Also look up the meanings of return and reason codes to identify the error cause, correct the error condition, and rerun the job. If the problem persists, contact IBM Software Support.

**ATY3002I ABEND Code: code Reason Code: rsn**

**Explanation**
This message is presented with an accompanying message that describes the error condition. code indicates the abend code, and rsn indicates the reason code.

**System action**
The job terminates with the indicated abend code.

**User response**
Contact IBM Software Support.

**ATY3003I Dataset Name: dsn**

**Explanation**
This message is presented with an accompanying message. dsn indicates the data set name.
<table>
<thead>
<tr>
<th>Message ID</th>
<th>DD Name: dd</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3004I</td>
<td>DD Name: dd</td>
<td>This message is presented with an accompanying message. dd indicates the DD name.</td>
<td>Processing continues.</td>
<td>None. This message is informational.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Member: member</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3005I</td>
<td>Member: member</td>
<td>This message is presented with an accompanying message. member indicates the member name.</td>
<td>Processing continues.</td>
<td>None. This message is informational.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message ID</th>
<th>DMB Type: dmb-type DBRC Type: dbrc-type</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3009I</td>
<td>DMB Type: dmb-type DBRC Type: dbrc-type</td>
<td>This message is presented with an accompanying message that describes the warning condition. dmb-type is one of PHDAM, PHIDAM, DEDB, MSDB, INDEX, or DLI. dbrc-type is one of DLI, DEDB, or HALDB. This message accompanies message ATY3309W.</td>
<td>The job terminates with return code 4.</td>
<td>Follow the user response for message ATY3309W.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message ID</th>
<th>Database : dbdname</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3013I</td>
<td>Database : dbdname</td>
<td>This message is presented with an accompanying message. dbdname indicates the DBD name.</td>
<td>Processing continues.</td>
<td>None. This message is informational.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message ID</th>
<th>text1 text2 text3</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3014I</td>
<td>text1 text2 text3</td>
<td>This message is presented with an accompanying message to provide further information.</td>
<td>Processing continues.</td>
<td>None. This message is informational.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message ID</th>
<th>text1 text2 text3</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3014E</td>
<td>text1 text2 text3</td>
<td>This message consists of multiple messages to provide information about the abend.</td>
<td>The job terminates abnormally.</td>
<td>If the cause of the error cannot be determined, contact IBM Software Support.</td>
</tr>
<tr>
<td>Message ID</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3015I</td>
<td><strong>AREA : area-name</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This message is presented with an accompanying message that describes the error condition. <em>area-name</em> indicates the area.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>See the system action for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>Follow the user response for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3016I</td>
<td><strong>Partition : part-name</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This message is presented with an accompanying message that describes the error condition. <em>part-name</em> indicates the HALDB partition.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>See the system action for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>Follow the user response for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3017I</td>
<td><strong>DSG : dsg-name</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This message is presented with an accompanying message that describes the error condition. <em>dsg-name</em> indicates the data set group.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>See the system action for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>Follow the user response for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3019I</td>
<td><strong>IMS PROCLIB DSN : dsname</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This message is presented with an accompanying message. <em>dsname</em> indicates the IMS PROCLIB data set name.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>See the system action for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>Follow the user response for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3021I</td>
<td><strong>Group : grp-name</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This message is presented with an accompanying message that describes the error condition. <em>grp-name</em> indicates the DBRC group.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>See the system action for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>Follow the user response for the accompanying message.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3022I</td>
<td><strong>ACB AREA count : a-count</strong> <strong>DBRC Area count : d-count</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This message is presented with message ATY3309W, which describes the error condition. <em>a-count</em> indicates area count in ACB, and <em>d-count</em> indicates area count in DBRC.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>See the system action for message ATY3309W.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>Follow the user response for message ATY3309W.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATY3100E</td>
<td><strong>z/OS LOAD failed for module-type module-name</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>An error occurred in the internal load instruction. <em>module-type</em> is one of PROGRAM, MDA member, or no value. <em>module-name</em> indicates the module that could not be loaded.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System action</strong></td>
<td>The job terminates abnormally.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response</strong></td>
<td>This is an internal error. Contact IBM Software Support.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**ATY3101E**  
*func call failed for module module-name*

**Explanation**
An error occurred during a service call for the indicated module. *func* is one of ENQ, DEQ, Initialization, Ready, Stop, SWAREQ, or ISGENQ.

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

---

**ATY3102E**  
*buff-type Eyecatcher is invalid (x’code’)*

**Explanation**
IMS Administration Tool could not identify the buffer. This is an internal error. *buff-type* is either DFSPDBSC or SSCD. *code* is the hexadecimal code of the invalid buffer name area.

**System action**
The job terminates abnormally.

**User response**
Consult your System Administrator.

---

**ATY3103E**  
*Name/Token func call failed in module-name (entry-name)*

**Explanation**
An error occurred in the indicated module during a function call. *func* is one of GET, DELETE, or Create.

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

---

**ATY3104E**  
*CPOOL function call failed*

**Explanation**
An error occurred while getting a storage area for the indicated function call. *function* is either BUILD or GET.

**System action**
The job terminates abnormally. Other messages are issued to provide more information about the error.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

---

**ATY3105E**  
The IMS Release of the IMS SSID requested is not supported

**Explanation**
The release level of the IMS system identified by the requested IMS SSID is not supported by IMS Administration Tool.

**System action**
The job terminates abnormally.

**User response**
Consult your System Administrator.

---

**ATY3107E**  
*Dynamic Allocation (SVC99) type call Failed in program program*

**Explanation**
An error occurred in the internal dynamic allocation call. *type* is one of ALLOCATE, CONCATENATE, DECONCATENATE, or FREE. *program* indicates the program in which the error occurred.

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

---

**ATY3108E**  
*BLDL (SVC 18) call for PROCLIB member memname failed in program pgmname*

**Explanation**
An error occurred trying to issue the BLDL macro to obtain PROCLIB member entries. *memname* is the member name. *pgmname* is the name of the IMS Administration Tool program in which this error occurred. Message ATY3001I, which follows this message, shows the return code and the reason code.

**System action**
The job terminates abnormally.
<table>
<thead>
<tr>
<th>User response</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refer to z/OS DFSMS Macro Instructions for Data Sets for the BLDL return and reason codes. If the problem persists, contact IBM Software Support.</td>
<td>Supply the missing DD statement and rerun the job. If the problem persists, contact IBM Software Support.</td>
</tr>
</tbody>
</table>

**ATY3109E**  
**Explanation**  
An error is detected in the record format. *member-type* is one of MODSTAT, MODSTAT2, OLCSTAT, or MDA member. *name* is one of Record, RECON1, RECON2, RECON3, IMSACB, IMSACBA, IMSACBB, or DFSHDBSC.  

**System action**  
The job terminates abnormally.  

**User response**  
This is an internal error. Contact IBM Software Support.  

**ATY3110E**  
**Explanation**  
An error occurred trying to issue the DEVTYPE macro to check the indicated DD statement that is specified in JCL. *dd-name* is the DD statement. *pgmname* is the IMS Administration Tool program in which this error occurred. Message ATY3001I, which follows this message, shows the return code and the reason code.  

**System action**  
The job terminates abnormally.  

**User response**  
Refer to z/OS DFSMSdfp Advanced Services for the return and reason codes from the DEVTYPE macro. If the problem persists, contact IBM Software Support.  

**ATY3111E**  
**Explanation**  
A required DD statement is missing in the JCL. *pgm-func* indicates the program or the function that requires the missing DD statement.  

**System action**  
The job terminates abnormally.  

**User response**  
Ensure that the started task member exists in the IMS PROCLIB data set and rerun the job. If the problem persists, contact IBM Software Support.  

**ATY3112E**  
**Explanation**  
An unauthorized data set is found in the STEPLIB concatenation of the indicated region. *rgn-name* is one of CQS, CTL, DBRC, DLIS, IMS Control, IRLM, JBP, OM, RM, or SCI. Message ATY3003I, which follows this message, shows the data set name.  

**System action**  
The job terminates abnormally.  

**User response**  
Review the attribute of the indicated data set that caused the error. Correct the error condition and rerun the job. If the problem persists, contact IBM Software Support.  

**ATY3113E**  
**Explanation**  
A started task member was not found in the IMS PROCLIB data set. *dd-name* is the DD name. *mbr-name* is the started task that was not found. *dsn* is the data set name of the IMS PROCLIB.  

**System action**  
The job terminates abnormally.  

**User response**  
Refer to z/OS DFSMSdfp Advanced Services for the return and reason codes from the DEVTYPE macro. If the problem persists, contact IBM Software Support.  

**ATY3114E**  
**Explanation**  
The DFSVC000 module could not be found in the STEPLIB data set concatenation of the IMS control region.  

**System action**  
The job terminates abnormally.
User response
Ensure that the DFSVC000 module exists in the STEPLIB data set concatenation of the IMS control region and rerun the job. If the problem persists, contact IBM Software Support.

ATY3115E   No STEPLIB data sets found in member mbr-name in IMS PROCLIB DSN: dsn

Explanation
The indicated member, which exists in the IMS PROCLIB data set, does not have a STEPLIB data set. dsn is the data set name of the IMS PROCLIB.

System action
The job terminates abnormally.

User response
Ensure that the indicated member contains a STEPLIB data set and rerun the job. If the problem persists, contact IBM Software Support.

ATY3116E   Unable to open INCLUDE member memname in DSN: dsname

Explanation
An error occurred while trying to open the indicated member. memname is the member name, and dsname is the data set name.

System action
The job terminates abnormally.

User response
Refer to preceding error messages and identify the cause of the error. If the error persists, contact IBM Software Support.

ATY3117E   Member memname was not found in either IMS PROCLIB or JES PROCLIB

Explanation
The indicated member was not found in the IMS PROCLIB data set or in the JES PROCLIB data set.

System action
The job terminates abnormally.

User response
Store the member in the IMS PROCLIB or the JES PROCLIB data set.

ATY3118E   Unable to locate parm in member mbr-name in DSN: dsn

Explanation
An error occurred trying to locate the parameter value in the indicated member. parm is one of RGSUF, Subsystem Type, or DBRC Started Task Name. dsn is the data set that contains this member.

System action
The job terminates abnormally.

User response
Ensure that the indicated parameter exists in the member and rerun the job. If the problem persists, contact IBM Software Support.

ATY3119E   ATTACH of program program from ATY@PRSB failed. Return Code: rc

Explanation
An error occurred in the ATTACH process. The compiler program (program), which is required for the copybook import process, could not be attached. rc indicates the return code. program is either IGYCRCTL (for COBOL compiler) or IBMZPLI (for PL/I compiler).

System action
The job terminates abnormally.

User response
This is an internal error. Contact IBM Software Support.

ATY3120E   task-name is required when state

Explanation
A required task was not found. task-name is the required task, and state is the specified parameter.

Possible combinations of task-name and state are as follows:
• IRLM Started Task Name and IRLM=Y
• DLISAS Started Task Name and LSO=S

System action
The job terminates abnormally.
User response
Ensure that either the IRLM Started Task Name or the DLISAS Started Task Name is supplied depending on the state. Correct the error condition and rerun the job. If the problem persists, contact IBM Software Support.

ATY3122I  dsn allocated to dd

Explanation
The indicated data set (dsn) is allocated to the indicated DD (dd).

System action
Processing continues.

User response
None. This message is informational.

ATY3123E  EXPORT data sets from both the Catalog and ACBLIB found

Explanation
Import processing failed because the export data set was found in both the IMS catalog and the ACB library. Message ATY3124E follows this message.

System action
The job terminates abnormally.

User response
Change the prefix of the export data set so that the export data set is found only in the IMS catalog or in the ACB library. Retry the import process.

ATY3124E  Can only IMPORT objects from one source

Explanation
Objects to import must be found only in one of the sources – either in the IMS catalog or in the ACB library. This message accompanies message ATY3123E.

System action
The job terminates abnormally.

User response
Change the prefix of the export data set so that the export data set is found only in the IMS catalog or in the ACB library. Retry the import process.

ATY3125E  No data sets to IMPORT objects from located

Explanation
Import processing failed because IMS Administration Tool could not find the import data set for the indicated objects. objects indicate either DBDs or PSBs.

System action
The job terminates abnormally.

User response
Ensure that the name of the import data set, which contains the objects to import, is specified correctly.

The import data set name consists of the export data set prefix followed by one of the following strings:

For DBDs:
• CDBDACT
• CDBDPND
• ADBDSTG
• ADBDINA
• ADBDACT

For PSBs:
• CPSBACT
• CPSBPND
• APSBSTG
• APSBINA
• APSBACT

ATY3126E  Invalid data at column col of IMS Task UserParms: Quote only valid around parm value

Explanation
A quotation mark is found at the indicated column position of the IMS task user parameter. Quotation marks can only be used to surround a parameter.

System action
The job terminates abnormally.

User response
Review the IMS task user parameter, correct the error condition, and rerun the job. If the problem persists, contact IBM Software Support.

ATY3127E  Invalid value for item: text
Explanation
An error occurred while parsing the parameter or the DD in the IMS procedure. *item* indicates the parameter or the DD. *text* shows detailed information.

System action
The job terminates abnormally.

User response
Review the IMS procedure, correct the error condition, and rerun the job. If the problem persists, contact IBM Software Support.

**ATY3128E** Required DD or variable *variable* for copybook processing is missing

Explanation
Copybook processing failed because a required DD statement or variable was not found. *variable* is either CBLLIB or PLILIB.

System action
The job terminates abnormally.

User response
Ensure that the compiler library that corresponds to the language of the copybook is registered to the CBLLIB or the PLILIB variable, or supplied with a DD statement.

**ATY3129E** Module *module-name*: Member *db-name* is a duplicate in the *func* hash table

Explanation
The database name appears more than once in the internal table. *module-name* indicates the module that issued this message. *db-name* indicates the database that appears more than once. *func* is DDIR or PDIR.

System action
The job terminates abnormally.

User response
This is an internal error. Contact IBM Software Support.

**ATY3130E** Data set was not found: *dsn*

Explanation
This message is presented with an accompanying message, ATY3131E, which provides information about the error. *dsn* indicates the missing data set.

System action
The job terminates abnormally.

User response
See the explanation of message ATY3131E and correct the error.

**ATY3131E** The data set name is specified in the IMS type JCL. Member: *member-name*

Explanation
This message accompanies message ATY3130E. IMS type JCL is one of the following JCL:
- IMS control region JCL
- IMS DBRC region JCL
- IMS JBP region JCL
- IMS DBDGEN JCL
- IMS PSBGEN JCL

*member-name* is the JCL member that contains a reference to the missing data set.

System action
The job terminates abnormally.

User response
Ensure that the data set exists. Complete either of the following steps and try the failed operation again:
- Specify the name of the existing data set in the indicated JCL member. If a symbol (&) is used, replace the symbol with the actual data set name.
- If the data set name contains a symbol (&), update the IMS subsystem information so that symbols are regarded as variables:
  1. Go to Setup and Administration > Register an IMS Subsystem.
  2. For Control Region UserParms, specify symbol=variable.

If the problem persists, contact IBM Software Support.

**ATY3200E** DBRC-API *service-name* service failed. IMSID *imsid*
Explanation
An error occurred during DBRC-API service call. service-name is one of the following services:

- CHANGE.DBDS RECOV
- DSPAPI(QUERY CHANGE ACCUM)
- DSPAPI(QUERY DBD)
- DSPAPI(QUERY LOG)
- DSPAPI(QUERY OLDS)
- DSPAPI(QUERY RECON)
- DSPAPI(QUERY SUBSYS)
- DSPAPI(RELBUF)
- DSPAPI(STARTDBRC)
- DSPAPI(STOPDBRC)
- QUERY CAGRP
- QUERY DBDSGRP
- QUERY DBGRP
- QUERY RECOVGRP

imsid is the IMS system.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

---

ATY3307E The format of the RDDSN dataset dsn has changed while processing.

Explanation
The format of the indicated RDDSN data set is invalid.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

---

ATY3308E Module module-name was not found in the data set concatenation for DD dd-name when processing IMS SSID imsid

Explanation
An error occurred while trying to find the DBD names defined in the RDDSN data sets. The indicated module was not found in the DD concatenation.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

---

ATY3309W Inconsistencies found between the DMB and DBRC definitions for database dbname

Explanation
Found inconsistencies between the DMB definitions and the DBRC definitions. Message ATY3009I, which follows this message, shows the DMB type and DBRC type.

System action
The job terminates with return code 4.

User response
Ensure that the OLDS record exists. If the problem persists, contact IBM Software Support.

---

ATY3201E Request timed-out in program module-name

Explanation
A time out occurred during a DBRC function request. func is the name of the DBRC function in DBRC API parameters. module-name indicates the module that issued this message.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

---

ATY3300W No OLDS records found for SSID/RSENAME imsid in RECON datasets

Explanation
Found no OLDS record when obtaining OLDS information for IMS SSID/RSENAME. imsid is the IMS system.

System action
The job terminates with return code 4.
User response
Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

**Explanation**
An error occurred in the indicated function call for a QSAM data set. `function` is one of PUT, OPEN, or CLOSE. `dd` indicates the DD for the data set. `program` indicates the program in which the error occurred.

**System action**
The job terminates abnormally.

User response
If the cause of the error cannot be determined, contact IBM Software Support.

**System action**
The job terminates abnormally.

User response
If the cause of the error cannot be determined, contact IBM Software Support.

**Explanation**
No members found in the indicated DBRC group type. `group-type` is one of CAGRP, DBGRP, DBDSGRP, RECOVGRP, or DBRC. `imsid` is the IMS system.

**System action**
The job terminates with return code 4.

User response
Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

**System action**
The job terminates with return code 4.

User response
Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.

**Explanation**
The import objects function, the IMS resource change function, or the DBD resource change function failed because the indicated keyword, which is specified for the `FUNCTION` statement of the ATYMSGI DD statement, is invalid.

**System action**
The job terminates abnormally.

User response
Correct the keyword for the `FUNCTION` statement. The `FUNCTION` statement keyword can be JCLGEN, IMPORT, or UPDATE.

**Explanation**
The import objects function, the IMS resource change function, or the DBD resource change function failed

**System action**
The job terminates abnormally.

User response
Review the conditions that caused the warning, correct the warning condition, and rerun the job. If the problem persists, contact IBM Software Support.
because the indicated parameter, which the function requires, is missing. function shows the value that is specified for the FUNCTION statement of the ATYMSGI DD statement, and it is one of JCLGEN, IMPORT, or UPDATE.

**System action**
The job terminates abnormally.

**User response**
Add the missing parameter.

If the cause of the error cannot be determined, contact IBM Software Support.

**ATY3332E Invalid value (value) specified for parameter=parameter**

**Explanation**
The import objects function, the IMS resource change function, or the DBD resource change function failed because the value specified for the indicated parameter is invalid. This invalid value is present on the ATYMSGI DD statement.

**System action**
The job terminates abnormally.

**User response**
Correct the value specified for the indicated parameter. The value must be either Y or N.

If the cause of the error cannot be determined, contact IBM Software Support.

**ATY3333E CATALOG=Y specified but Catalog not enabled on target IMS**

**Explanation**
Although the CATALOG=Y parameter is present in the ATYMSGI DD statement, the IMS catalog is not enabled in the target IMS system.

**System action**
The job terminates abnormally.

**User response**
Ensure that the target IMS system, in which the IMS catalog will be populated, is specified correctly.

**ATY3335E ACB update required to populate IMS Catalog**

**Explanation**
An error occurred while checking parameters required for IMS catalog population. To populate the IMS catalog, IMS Administration Tool updates ACBs, but the parameter that is required to process ACBGEN is not found in the ATYMSGI DD statement.

**System action**
The job terminates abnormally.

**User response**
Review the parameters in the ATYMSGI DD statement.

**ATY3336W Some objects bypassed because they already exist**

**Explanation**
This message is printed when the Overwrite Existing Objects option is set to No and one or more objects with same names already exist in the ACB library.

**System action**
Processing continues. Objects with same names are not processed (imported or updated). Prints message ATY3338W to indicate which objects are not processed.

**User response**
None. This message is informational.

**ATY3337E All members to import already exist and OVERWRITE=N**

**Explanation**
This message is printed when the Overwrite Existing Objects option is set to No and IMS Administration Tool identified no objects that must be processed.

**System action**
The job terminates abnormally.

**User response**
Ensure that the correct objects are selected. Also ensure that the Overwrite Existing Objects option is set correctly.

**ATY3338E object member already exists in library and will not be replaced**

**Explanation**
This message is printed during the import process when the Overwrite Existing Objects option is set to No
and the indicated member already exists in the indicated library. The import process for this member is skipped. object is either DBD or PSB.

**System action**
Skips the import process for the indicated member and continues processing. If there are no more objects to import, the job terminates abnormally and issues message ATY3337E.

**User response**
None.

**Explanation**
Found no objects to export in the indicated library. status is one of PENDING, ACTIVE, INACTIVE, or STAGING. source-lib is ACBLIB or IMSCAT.

**System action**
Processing continues.

**User response**
None. This message is informational.

**Explanation**
The indicated SSID/GROUP is not registered to the IMS Tools Knowledge Base repository. name is SSID/GROUP name.

**System action**
The job terminates abnormally.

**User response**
Ensure that the SSID/GROUP name is registered to the IMS Tools Knowledge Base repository. If the problem persists, contact IBM Software Support.

**Explanation**
The indicated DDN (dd-name), which is for a RECON data set, is already allocated to the indicated RECON data set (dsn). Message ATY3433E, which follows this message, shows the requested data set name.

**System action**
The job terminates abnormally.

**User response**
Contact IBM Software Support.

**Explanation**
This message accompanies message ATY3432E. See the explanation for messages ATY3432E.

**System action**
The job terminates abnormally.

**User response**
Follow the user response for message ATY3432E.

**Explanation**
An attempt was made to issue a /DBD command for a Fast Path DEDB (dedb). This is not a valid command.

**System action**
The DEDB is skipped.

**User response**
correct the command and run the job again.

**Explanation**
The indicated CAGROUP is not found in the RECON data set. dbname is the database. dd-name is the DD.
Explanation
An attempt was made to issue a /DBD command for a Fast Path MSDB (msdb). This is not a valid command.

System action
The MSDB is skipped.

User response
Correct the command and run the job again.

ATY3464I  timestamp MSDB msdb NOT VALID FOR /DBR COMMAND

Explanation
An attempt was made to issue a /DBR command for a Fast Path MSDB (msdb). This is not a valid command.

System action
The MSDB is skipped.

User response
Correct the command and run the job again.

ATY3466I  timestamp DDIR FOR DATABASE NOT FOUND or timestamp DMAC FOR AREA NOT FOUND

Explanation
The database (dbd) or AREA (area) was not found in the IMS control blocks.

System action
Processing continues.

User response
N/A

ATY3600E  Unable to read mbr-name from ACBLIB

Explanation
Failed to read the indicated member from the ACB library. mbr-name is either a PSB member or an ACB member.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

ATY3601E  Unable to locate library information

Explanation
An error occurred while obtaining information about the indicated library. library is either Inactive ACBLIB or RECON.

System action
The job terminates abnormally.

User response
This is an internal error. Contact IBM Software Support.

ATY3602E  Unable to read psb-name from Catalog

Explanation
Failed to read the indicated member from the IMS catalog. psb-name is the name of the PSB member that could not be read.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

ATY3603E  Fast Path area definition storage blocks not found. Module=module-name

Explanation
An internal storage error occurred. module-name indicates the module that issued this message.

System action
The job terminates abnormally.

User response
This is an internal error. Contact IBM Software Support.

ATY3604E  type definitions for type type-name, database db-name, need to be registered in DBRC or defined in MDALIB
Explanation
The database definition is not registered correctly. type is AREA or DDNAME. type-name is the resource name of type. db-name is the name of the database.

System action
The job terminates abnormally.

User response
Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.

ATY3605E type definitions for database db-name need to be registered in DBRC or defined in MDALIB

Explanation
The database definition is not registered correctly. type is AREA or DDNAME. db-name is the name of the database.

System action
The job terminates abnormally.

User response
Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.

ATY3606E Database information for db-name needs to be defined in RDDS or MODBLKS

Explanation
The database information is not defined correctly. db-name is the name of the database.

System action
The job terminates abnormally.

User response
Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.

ATY3607E Information requested from catalog but catalog is not enabled

Explanation
An error occurred when IMS Administration Tool requested catalog information. The IMS catalog is not enabled.

System action
The job terminates abnormally.

User response
Ensure that the IMS catalog is made available to the IMS system. If the problem persists, contact IBM Software Support.

ATY3608E Unable to locate variable-name variable setting

Explanation
The indicated variable is missing. This variable must be registered.

System action
The job terminates abnormally.

User response
Register the indicated variable.

ATY3609E Unable to locate library for Fast ACBGEN

Explanation
The library that is required for the Fast ACBGEN process is not found.

System action
Processing continues.

User response
None. This message is informational.

ATY3609W Unable to locate library for Fast ACBGEN

Explanation
The library that is required for the Fast ACBGEN process is not found.

System action
The job terminates abnormally.

User response
Review the definition of the database and identify the cause of the error. If the problem persists, contact IBM Software Support.
User response
If the cause of the error cannot be determined, contact IBM Software Support.

ATY3610E  Catalog Update requires function to be run on same LPAR as active IMS

**Explanation**
Either the IMS system is not active or this task or job is not executed on the same LPAR as the active IMS system. To update the IMS catalog, this task or job must be executed on the same LPAR as the active IMS system.

**System action**
The job terminates abnormally.

User response
Ensure that the IMS system is active and that this task or job is executed on the same LPAR as the active IMS system.

ATY3611E  IEBCOPY ended with return code rc

**Explanation**
An error occurred trying to invoke the internal IEBCOPY utility. rc indicates the return code from the utility.

**System action**
The job terminates abnormally.

User response
This is an internal error. Contact IBM Software Support.

ATY3612E  function to target cannot be run when IMS is active

**Explanation**
The indicated function cannot be performed because the IMS system is active. The indicated function requires that the IMS system be inactive. function is either Update or Import. target is either Active ACBLIB or Active Catalog.

**System action**
The job terminates abnormally.

User response
Correct the indicated keywords. If the cause of the error cannot be determined, contact IBM Software Support.

ATY3700E  AllSi function request failed, RC=rc RSN=rsn

**Explanation**
An error occurred trying to issue the function call to IMS Tools Base Distributed Access Infrastructure (DAI). rc indicates the return code, and rsn indicates the reason code. function is one of BUILDENV, QRYGRP, FREEBUF, INIT, QRYTAS, FREEBUF, SEND, GET, XCFMSG, or MESSAGE.

**System action**
The job terminates abnormally.

User response
This is an internal error. Contact IBM Software Support.

ATY3702E  function request for target failed, RC=rc RSN=rsn

**Explanation**
An error occurred trying to request the internal function call. function is one of the following functions:

- IXGCONN DISCONNECT
- IXGWRITE
- HKTXPEX READ
• HKTXPEX INIT
• HKTXPEX TERM
• IXGCONN CONNECT
• HKTXPEX ADD
• HKTXPEX SYNC
• HKTXPEX DLET
• HKTXPEX GETL
• IXGCONN DISCONNECT
• OBTAIN

**target** indicates one of log stream name, ITKB XCF group name, or data set name. *rc* indicates the return code, and *rsn* indicates the reason code.

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

<table>
<thead>
<tr>
<th>ATY3703E</th>
<th>Required ITKB XCF group name was not specified.</th>
</tr>
</thead>
</table>

**Explanation**
An error occurred trying to initialize the IMS Tools Knowledge Base information. The XCF group name for the IMS Tools Knowledge Base repository server was not supplied.

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

<table>
<thead>
<tr>
<th>ATY3704I</th>
<th>Audit log is not written because log stream is being formatted.</th>
</tr>
</thead>
</table>

**Explanation**
An temporary error occurred trying to write the audit log. Audit log cannot be written when the log stream is being formatted.

**System action**
Processing continues.

**User response**
None. This message is informational.

<table>
<thead>
<tr>
<th>ATY3900E</th>
<th>Entry number <em>nn</em> not found in Table : table</th>
</tr>
</thead>
</table>

**Explanation**
No entry found for the indicated message number in the message table. *nn* is the entry number of the message that was intended to be issued. *table* is ATY#LENU (Literal table) or ATY#MENU (Message table).

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

<table>
<thead>
<tr>
<th>ATY3901E</th>
<th>Program <em>pgm-name</em> requires APF-Authorization</th>
</tr>
</thead>
</table>

**Explanation**
The indicated program must be APF authorized.

**System action**
The job terminates abnormally.

**User response**
Contact IBM Software Support.

<table>
<thead>
<tr>
<th>ATY3902E</th>
<th>MVS Service <em>svc</em> call from <em>member</em> failed</th>
</tr>
</thead>
</table>

**Explanation**
An error occurred when the indicated member issued the MVS service (*svc*) call. *svc* is one of ATTACH, ATTACHX, OPEN, LOCASCB, DESERV, IGGCS100, or STOW.

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

<table>
<thead>
<tr>
<th>ATY3904E</th>
<th>Unable to open <em>ddname</em> DD</th>
</tr>
</thead>
</table>

**Explanation**
An error occurred while trying to open a data set with the DDNAME of *ddname*.
<table>
<thead>
<tr>
<th>Message Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATY3910E</td>
<td>ABEND occurred in program <code>pgm-name</code></td>
</tr>
<tr>
<td>ATY3920I</td>
<td>VSAM operation call failed</td>
</tr>
<tr>
<td>ATY3936E</td>
<td>Program <code>pgm-name</code> received invalid function (<code>fc</code>) in message</td>
</tr>
<tr>
<td>ATY3937E</td>
<td>Program <code>pgm-name</code>: No key supplied for function (<code>fc</code>) in message</td>
</tr>
<tr>
<td>ATY3938E</td>
<td>Program <code>pgm-name</code>: Duplicate key for insert with record type (<code>type</code>)</td>
</tr>
<tr>
<td>ATY3939E</td>
<td>RPLERRCD: <code>errcd</code></td>
</tr>
<tr>
<td>ATY3940W</td>
<td>Program <code>pgm-name</code>: Record not found</td>
</tr>
</tbody>
</table>

**Explanation**

An abend occurred in the indicated program (`pgm-name`). Message ATY3002I, which follows this message, shows the abend code and the reason code.

An error occurred during an operation call to a VSAM file. `operation` is one of GET, PUT, ERASE, SHOWCB ACB ACBLEN, or SHOWCB RPL RPLLEN. Message ATY3939E, which follows this message, shows the reason code from the VSAM access error.

An internal error occurred trying to access the VSAM command options. `pgm-name` is the name of program in which the error occurred. `fc` is one of G (Get), A (Add), U (Update), or D (Delete).

An error occurred trying to insert a record to a VSAM data set. Found a duplicate record key. `pgm-name` is the name of program in which the error occurred. `type` is the record type and is one of I (IMS), J (JOB), or M (MSG).

This message indicates the reason code from the VSAM access error. This message accompanies message ATY3920E.

An internal error occurred trying to access the VSAM command options. `pgm-name` is the name of program in which the error occurred. `fc` indicates the invalid code character, which is other than G (Get), A (Add), U (Update), and D (Delete).

This message accompanies message ATY3920E.

Contact IBM Software Support.
Explanation
A record was not found when IMS Administration Tool accessed a VSAM file. `pgm_name` is the name of the program that detected this warning condition.

System action
The job terminates with return code 4.

User response
This is an internal error. Contact IBM Software Support.

**ATY3941E** Program `pgm-name`: ENQ failure

Explanation
An error occurred trying to issue the ENQ macro to the VSAM options file. `pgm-name` is the name of program in which the error occurred. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

**ATY3942W** LOGSTREAM name `ls-name` not found

Explanation
An error occurred trying to connect to the log stream. The log stream name is not defined in the LOGR policy. `ls-name` is the log stream name.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

**ATY3943E** LOGSTREAM `ls-name` CONNECT error

Explanation
An error occurred trying to connect to the log stream. `ls-name` is the log stream name.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

**ATY3944I** LOGSTREAM `ls-name` is empty

Explanation
An error occurred trying to browse the log stream. The log stream is empty. `ls-name` is the log stream name.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

**ATY3945E** LOGSTREAM `ls-name` BROWSE START error

Explanation
An error occurred trying to start a browse session for the log stream. `ls-name` is the log stream name. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

**ATY3946E** LOGSTREAM `ls-name` READCURSOR error

Explanation
An error occurred trying to read (READCURSOR) the log stream. The end of the log stream has been reached in the direction of the read. `ls-name` is the log stream name. Message ATY3001I, which follows this message, shows the return code and the reason code.

System action
The job terminates abnormally.

User response
Contact IBM Software Support.

**ATY3950E** Program `ATY@PRSB` received invalid parameter (x) in ATYMSGI
The copybook language parameter, which was passed to ATY@PRSB during the copybook import process, is invalid. \textit{x} indicates the 1-digit invalid parameter that was passed to ATY@PRSB. The copybook language parameter must be either B for COBOL or P for PL/I.

\textbf{System action}

The job terminates abnormally.

\textbf{User response}

Locate messages issued by the IMS Catalog Populate utility (DFS3PU00). Identify the cause of the error and correct it.

\textbf{Explanation}

The ACBGEN process ended with the indicated return code (\textit{cd}). \textit{process} shows the type of the code, either Abend or Return.

\textbf{System action}

The job terminates abnormally.

\textbf{User response}

Identify the cause of the error, correct it, and rerun the job. If the problem persists, contact IBM Software Support.

\textbf{Explanation}

The EXPORT process ended with the indicated return code (\textit{cd}). Found no objects to export.

\textbf{System action}

Processing continues.

\textbf{User response}

None. This message is informational.

\textbf{Explanation}

During the copybook import process, the process to update the IMS catalog ended with the indicated return code. \textit{process} shows the type of the code, either Abend or Return.

\textbf{System action}

The job terminates abnormally.

\textbf{User response}

Identify the cause of the error, correct it, and rerun the job. If the problem persists, contact IBM Software Support.

\textbf{Explanation}

During the copybook import process, the compiler ended with the indicated return code. \textit{process} shows the type of the code, either Abend or Return.

\textbf{System action}

The job terminates abnormally.
User response
Identify the cause of the error and correct it. Rerun the job.

**ATY3999E**  
**Internal Logic Error: module (Code: number)**

**Explanation**
An internal logic error occurred. *module* indicates the module in which the error occurred, and *number* indicates the code number, which is one of the following values:
- 001: Invalid Handle passed
- 002: Invalid Function passed
- 003: Invalid Parameter passed

**System action**
The job terminates abnormally.

**User response**
This is an internal error. Contact IBM Software Support.

**ATY5003E**  
**DYNALLOC RETURN CODE =rc**

**Explanation**
The data set named in message ATY5002E received an invalid return code (*rc*) during DYNALLOC processing.

**System action**
The REDO BMP terminates with a return code of 12.

**User response**
Correct the error that caused the DYNALLOC failure and run the job again.

**ATY5001E**  
**ATYPRINT OR CCFPRINT OPEN FAILED**

**Explanation**
The REDO BMP encountered an error attempting to open DDNAME ATYPRINT or CCFPRINT. Additional messages might be displayed on the z/OS Syslog.

**System action**
The REDO BMP terminates with a return code of 12.

**User response**
Correct the error that caused the open failure and run the job again.

**ATY5002E**  
**DYNALLOC FAILED FOR DSN=dsn**

**Explanation**
The REDO BMP encountered a dynamic allocation failure for data set *dsn*. The return code for the DYNALLOC failure can be found in subsequent message ATY5003E.

**System action**
The REDO BMP terminates with a return code of 12.

**ATY5004E**  
**LOAD FAILED FOR MODULE ATYSTFWD**

**Explanation**
IMS Administration Tool was unable to load the store/forward dynamic allocation member ATYSTFWD.

**System action**
The REDO BMP terminates with a return code of 12.

**User response**
Ensure the proper ATYSTFWD member is present in the STEPLIB of the REDO BMP and run the job again.

**ATY5005E**  
**OPEN FAILED FOR ATYSTFWD OR CCFSTFWD, RETURN CODE=rc**

**Explanation**
IMS Administration Tool was unable to open the data set associated the DDNAME ATYSTFWD or CCFSTFWD. The return code from the open is contained in field *rc*. Additional messages might be displayed on the z/OS Syslog.

**System action**
The REDO BMP terminates with a return code of 12.

**User response**
Correct the error that caused the open failure and run the job again.

**ATY5006E**  
**INQY CALL FAILED, AIBRETRN=rc AIBREASN=rsn**
Explanation
The REDO BMP was not able to successfully issue an IMS INQY/ENVIRON call. The AIBRETRN and AIBREASN codes are contained in rc and rsn, respectively.

System action
The job step might terminate abnormally, depending on what options were in effect for the job.

User response
Correct the problem and retry the command.

ATY5007W OPEN FAILED FOR DD ATYPRE OR CCFPRE

Explanation
The REDO BMP encountered an error attempting to open DDNAME ATYPRE or CCFPRE. This is probably due to erroneous DCB parameters. Additional messages might be displayed on the z/OS Syslog.

System action
Processing continues without ATYPRE or CCFPRE input. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
Make sure the data set associated with DDNAME ATYPRE or CCFPRE is defined with LRECL=80 and DSORG=PS.

ATY5008E PREVIOUS RECORD IGNORED, UNRECOGNIZED COMMAND

Explanation
A record that contained a non-valid command was read from the store/forward data set. This is an internal error that should not occur.

System action
The record is bypassed and processing continues.

User response
Contact IBM Software Support.

ATY5009I STORE/FORWARD DSN=dsn

Explanation
This is an informational message displayed by the REDO BMP to indicate the name of the store/forward data set.

System action
Processing continues.

User response
None. This message is informational.

ATY5010W ERROR DURING ICMD CALL, AIBRETRN=rc AIBREASN=rsn

Explanation
Program ATYREDO0 was not able to successfully issue an IMS command using the ICMD interface. The AIBRETRN and AIBREASN codes are contained in rc and rsn, respectively.

System action
The job step might terminate abnormally, depending on what options were in effect for the job.

User response
Correct the problem and retry the command.

ATY5011W ERROR DURING ICMD CALL, AIBRETRN=rc AIBREASN=rsn

Explanation
Program ATYREDO0 was not able to successfully issue an IMS command using the ICMD interface. The AIBRETRN and AIBREASN codes are contained in rc and rsn, respectively.

System action
The job step might terminate abnormally, depending on what options were in effect for the job.

User response
Correct the problem and retry the command.

ATY5012W ERROR DURING RCMD CALL, AIBRETRN=rc AIBREASN=rsn

Explanation
Program ATYREDO0 was not able to successfully retrieve a response to an IMS command using the RCMD call. The AIBRETRN and AIBREASN codes are contained in rc and rsn, respectively.

System action
The job step might terminate abnormally, depending on what options were in effect for the job.
User response
Correct the problem and retry the command.

**ATY5013W**  ERROR DURING RCMD CALL,  
AIBRETRN=rc AIBREASN=rsn

**Explanation**
Program ATYREDO0 was not able to successfully retrieve a response to an IMS command using the RCMD call. The AIBRETRN and AIBREASN codes are contained in `rc` and `rsn`, respectively.

**System action**
The job step might terminate abnormally, depending on what options were in effect for the job.

**User response**
Correct the problem and retry the command.

**ATY5014I**  ATYPRE OR CCFPRE PROCESSING  
STARTED

**Explanation**
The REDO BMP has started processing the commands read from DDNAME ATYPRE or CCFPRE.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY5015I**  ATYPRE OR CCFPRE PROCESSING  
COMPLETED

**Explanation**
The REDO BMP has completed processing all commands from DDNAME ATYPRE or CCFPRE.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY5016W**  OPEN FAILED FOR DD ATYPPOST  
OR CCFPOST

**Explanation**
The REDO BMP encountered an error attempting to open DDNAME ATYPPOST or CCFPOST. This is probably due to erroneous DCB parameters. Additional messages might be displayed on the z/OS Syslog.

**System action**
Processing continues without ATYPPOST or CCFPOST input. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

**User response**
Make sure the data set associated with DDNAME ATYPPOST is defined with LRECL=80 and DSORG=PS.

**ATY5017I**  ATYPPOST OR CCFPOST  
PROCESSING STARTED

**Explanation**
The REDO BMP has started processing commands read from DDNAME ATYPPOST or CCFPOST.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY5018I**  ATYPPOST OR CCFPOST  
PROCESSING COMPLETED

**Explanation**
The REDO BMP has completed processing all commands from DDNAME ATYPPOST or CCFPOST.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY5019W**  IMS ims NOT FOUND IN GROUP  
CSLplex

**Explanation**
The IMS record in the options data set for `ims` specifies Operations Manager for its command routing technique, but `ims` is not an active member in CSLplex.

**System action**
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error
is encountered, the REDO BMP sets a return code of 4 upon completion.

**User response**
Use the IMS Administration Tool user interface to correct the IMS routing technique specification for *ims*.

**Explanation**
The REDO BMP encountered an error reading the store/forward data set. The VSAM return code and RPLFDBK are represented by *rc* and *rplfdbk*, respectively.

**System action**
The REDO BMP terminates with a return code of 12.

**User response**
Correct the error caused by the non-zero return code and run the job again.

**Explanation**
The REDO has started processing commands from the store/forward data set.

**System action**
Processing continues.

**User response**
None. This message is informational.

**Explanation**
The following record was read from the store/forward data set for this particular IMS, but it is not processed because it was flagged for deletion by USER *user*.

**System action**
The record is deleted from the store/forward data set and processing continues.

**User response**
None. This message is informational.

**Explanation**
This message lists the record described by previous message ATY5025I.
User response
None. This message is informational.

**ATY5027I**
**ATY OPTIONS DATA SET NAME = dsn**

Explanation
This is an informational message displayed by the REDO BMP to indicate the name of the options data set. The options data set is read by the REDO BMP because a type 2 IMS command has been read, and the REDO BMP needs to read the IMS record to obtain the Operations Manager PLEX name.

System action
Processing continues.

User response
None. This message is informational.

**ATY5028W**
**READ ERROR ON ATY OPTIONS DATA SET, RC=rc RPLFDBK=rplfdbk**

Explanation
The REDO BMP encountered an error reading the options data set. The VSAM return code and RPLFDBK are represented by rc and rplfdbk, respectively.

System action
The REDO BMP terminates with a return code of 12.

User response
Correct the error caused by the non-zero return code and run the job again.

**ATY5029W**
**LOAD FAILED FOR MEMBER ATY#OPTS**

Explanation
IMS Administration Tool was unable to load the options data set dynamic allocation member ATY#OPTS.

System action:
The REDO BMP terminates with a return code of 12.

User response
Ensure the proper ATY#OPTS member is present in the STEPLIB of the REDO BMP and run the job again.

**ATY5030W**
**OPEN FAILED FOR OPTIONS DS, RETURN CODE=rc**

Explanation
IMS Administration Tool was unable to open the options data set. The return code from the open is contained in field rc. Additional messages might be displayed on the z/OS Syslog.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
Correct the error that caused the open failure and run the job again.

**ATY5031W**
**OPTIONS DATA SET RECORD FOR ims NOT FOUND**

Explanation
The options data set did not contain an IMS record for ims. The options data set IMS record is needed to obtain the Operation Manager name because a type 2 IMS command has been read.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
Ensure correct options data set is being used. If so, use the IMS Administration Tool user interface to add an IMS record to the options data set.

**ATY5032W**
**IMS imsid NOT DEFINED TO USE OPERATIONS MANAGER**

Explanation
The IMS record in the options data set for imsid does not specify Operations Manager as its command routing technique.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.
User response
If type 2 IMS commands are to be executed, use the IMS Administration Tool user interface and change the IMS record for imsid to use Operations Manager as its command routing technique.

ATY5033W OPERATIONS MANAGER NAME NOT SPECIFIED FOR imsid

Explanation
The IMS record in the options data set for imsid specifies Operations Manager as its command routing technique, but the PLEX name is not defined.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
If type 2 IMS commands are to be executed, use the IMS Administration Tool user interface to define the Operations Manager PLEX name.

ATY5034W CSLSCREG FAILED FOR CSLplex
RC=rc RSN=rsn

Explanation
The REDO BMP encountered an error attempting to connect to the Common Service Layer PLEX plex. The return and reason codes are contained in rc and rsn, respectively.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
Find the return (rc) and reason (rsn) code for CSLSCQRY in the IMS Common Service Layer Guide and Reference.

ATY5036W INVALID DATA RETURNED FROM CSLSCQRY

Explanation
The REDO BMP does not recognize the data returned from the CSLSCQRY call.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
This is an internal error. Contact IBM Software Support.

ATY5037W INVALID DATA RETURNED FROM CSLSCQRY

Explanation
The REDO BMP does not recognize the data returned from the CSLSCQRY call.

System action
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

User response
This is an internal error. Contact IBM Software Support.

ATY5038W NO MEMBER INFO RETURNED FROM CSLSCQRY
**Explanation**
The REDO BMP does not recognize the data returned from the CSLSCQRY call.

**System action**
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

**User response**
This is an internal error. Contact IBM Software Support.

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**Explanation**
The REDO BMP did not find an active Operations Manager task in the Common Service Layer group.

**System action**
Processing continues with all type 1 IMS commands. Type 2 IMS commands are skipped and erased from the store/forward data set. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

**User response**
Ensure an Operations Manager task is started.

---

**Explanation**
The REDO BMP encountered an error attempting to issue a type 2 IMS command. The return and reason codes are contained in $rc$ and $rsn$, respectively.

**System action**
The record is erased from the store/forward data set and processing continues. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

**User response**
Find the return ($rc$) and reason ($rsn$) code for CSLSCQRY in the IMS Common Service Layer Guide and Reference.

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**Explanation**
Due to the failure of a previous attempt to issue a type 2 IMS command, all type 2 IMS commands are bypassed. The reason for the previous failure is displayed in a previous message.

**System action**
The record is erased from the store/forward data set and processing continues. Unless a more severe error is encountered, the REDO BMP sets a return code of 4 upon completion.

**User response**
None. This message is informational.

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**Explanation**
The runtime option for this job is specified by the DBACCESS=SYSGEN parameter, but the IMS entry for $xxxx$ in the IMS Administration Tool options data set did not contain a MODBLKS data set name.

**System action**
The runtime option for this job is changed from DBACCESS=SYSGEN to DBACCESS=ASIS, and processing continues.
User response
To use the DBACCESS=SYSGEN runtime option, add a MODBLKS data set name in the IMS Administration Tool options data set for IMS xxxx, and rerun the job.

**Explanation**
This message lists all of the options in effect for this job.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY6008I COMMAND STORE/FORWARD ACTIVE**

**Explanation**
Command store/forward is active for this job.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY6009I STORE/FORWARD DSN=dsn**

**Explanation**
This information message displays the name of the command store/forward data set (dsn).

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY6010I ERRORS .: ABEND=Ucode SETRC=rc ERRORS .: GENERAL=opt ROUTING=opt ERR488=opt DBRC=opt RETRY OPTIONS .....: RETRYATT=att RETRYSEC=sec /ATYMOD OR /CCFMOD OPTIONS ...: MODFAIL=modfail MODREVERSE=modrev DATABASE OPTIONS ..: WTDOWCMD=wto DATAGRPEXP=grpexp DBACCESS=ASIS NOFEOV=Y ERR3466=X PRESCAN=X DFS0488I: rc rc rc rc rc rc rc rc rc rc rc rc OPERATIONS MANAGER RETURN CODE: omrc omrc omrc omrc omrc omrc JOB= MASK=mask route=name OPTIONS DATA SET NAME = dsn IMS LIST: ERRORS .: SYNTAXERR=% TIMEOUT SECONDS ....: TIMEOUT=%%%%**

**Explanation**
This message lists all of the options in effect for this job.

**System action**
Processing continues.

**User response**
None. This message is informational.

**ATY6011E MISSING ATY#OPTS MEMBER FOR ATY OPTIONS DATA SET**

**Explanation**
An attempt to LOAD member ATY#OPTS failed. The member is not present in the ATY Product Load Library.

**System action**
If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

**User response**
Ensure member ATY#OPTS is present in a STEPLIB or JOBLIB data set, and try the operation again.

**ATY6012E ATY OPTIONS NOT FOUND - DSN=dsn**

**Explanation**
A LOCATE failed for the ATY options data set name (dsn) obtained from member ATY#OPTS.

**System action**
If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

**User response**
Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

**ATY6013E DYNAMIC ALLOCATION FAILED FOR ATY OPTIONS DATA SET**
Explanation
Dynamic allocation failed for the ATY options data set name that is obtained from member ATY#OPTS.

System action
If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is running from the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response
Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

ATY6014E OPEN FAILED FOR ATY OPTIONS DATA SET

Explanation
An open failed for the ATY options data set.

System action
If the ATY command driver is running as a batch job, the job terminates with a U4095 abend. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response
Ensure member ATY#OPTS contains the correct data set name for the ATY options data set.

ATY6015E IMS NOT DEFINED - IMSID=iii

Explanation
A request was made to issue a command to an IMS system (iii) that was not defined in the ATY options data set.

System action
If the ATY command driver is running as a batch job, the job terminates with the abend code specified in either the global or job record in the ATY options data set. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

User response
Ensure the group record in the ATY options data set contains the wanted IMS system names.

ATY6019W IMSID=iii IN GROUP=gggggggg BUT NOT IN OPTIONS DS
An IMSID was defined in ATY group (gggggggg) but there is no IMSID record in the ATY options data set for MS iiii.

IMS (iiii) is removed from the ATY group, and processing continues.

Either remove the undefined IMS name from the ATY group entry, or create a valid IMS ATY entry for iiii.

The ATY options data set did not contain the global record.

If the ATY command driver is running as a batch job, the job terminates with the abend code specified in either the global, or job, record in the ATY options data set. If the ATY command driver is called by the callable API (ATYCAPI0), the call to the API fails with a non-zero return and reason code.

Ensure that the ATY options data set has been properly populated.

Input that is read from ATYOPTS dd statement contained an invalid keyword. The keyword is identified in the preceding ATY6024I message.

The unknown keyword is bypassed, and processing continues.

Ensure that the ATY options data set has been properly populated.

The ATY Group name, obtained either from the PARM statement, or read from ATYOPTS dd statement, was more than 8 characters in length. The ATY Group specification is listed in a prior ATY6024I message.

The ATY Group name is truncated to 8 characters and processing continues.

Correct the ATY Group name specification before you run the ATY job.

Ensure that the ATY options data set has been properly populated.

This message lists a parameter, or ATYOPTS or CCFOPTS input keyword, that is incorrectly specified. The specific error is displayed in a subsequent ATY message.

Take action that is based on the subsequent ATY message.

None. This message is informational.

A job options record in the VSAM options data set containing masks matched the job name.

IMS Administration Tool runtime options are obtained from the matching job options record in the VSAM options data set.

None. This message is informational.

A job options record in the VSAM options data set containing masks matched the job name. The name of job options record is displayed in the MASK=xxxxxxxx field.
System action
IMS Administration Tool runtime options are obtained from the matching job options record in the VSAM options data set.

User response
None. This message is informational.

ATY6027W ATYOPTS OR CCFOPTS "GROUP=" SPECIFICATION IGNORED

Explanation
A Job name record in the VSAM options data set containing wildcard matched the JES2 job name.

ATY6028W ATYOPTS OR CCFOPTS "IMSID=" SPECIFICATION IGNORED

Explanation
Because both GROUP and IMSID statements are specified on the EXEC parameter, IMS Administration Tool ignored the IMSID statement.

ATY6029W IMSID TRUNCATED TO 4 CHARACTERS

Explanation
The IMSID, obtained either from the PARM statement or read from ATYOPTS dd statement, was more than 4 characters in length.

System action
The IMSID is truncated to 4 characters and processing continues.

User response
Correct the IMSID specification before you run the ATY job.

ATY6032W DBRC=IGNORE IN EFFECT BECAUSE RECONS ARE NOT SHARED

Explanation:
DBRC was selected. However this value was overridden by the options module because the Group record does not have the shared RECON flag set to "Y".

System action:
DBRC value is set to IGNORE.

ATY6033W DBRC BYPASSED - SYSPRINT/SYSIN DDNAMES SELECTED

Explanation:
Either SYSPRINT or SYSIN is selected as the DD name. The DBRC option is set to IGNORE.

System action:
DBRC value is set to IGNORE.

ATY6034W DBRC BYPASSED - SYSPRINT/SYSIN JCL ALLOCATED

Explanation:
Either SYSPRINT or SYSIN is JCL allocated. The DBRC option is set to IGNORE.

System action:
DBRC value is set to IGNORE.

ATY6035W DBRC BYPASSED - RESLIB IS NOT IN STEPLIB

Explanation:
IMS RESLIB is not in the standard MVS load library search order. The DBRC option is set to IGNORE.

System action:
DBRC value is set to IGNORE.

ATY6036W ATYOPTS OR CCFOPTS "GROUP=" ALREADY SPECIFIED

Explanation:
A GROUP= statement has already been specified.

System action:
The new specification attempt is ignored.
User response: None.

ATY6037W ATYOPTS OR CCFOPTS "IMSID=" ALREADY SPECIFIED

Explanation: An IMSID= statement has already been specified.

System action: The new specification attempt is ignored.

User response: None.

ATY6038E NO VALID IMSID/GROUP SPECIFIED

Explanation: An IMSID/GROUP was not specified as required.

System action: User abend is issued.

User response: Provide a valid IMSID/GROUP.

ATY6039E SETRC= VALUE MUST BE NUMERIC BETWEEN 0-4095

Explanation: The SETRC= value must be a numeric value between 0 and 4095.

System action: Processing continues with the default value from the options module.

User response: Provide a valid SETRC= value.

ATY6040E ABEND= VALUE MUST BE NUMERIC BETWEEN 0-4095

Explanation: The ABEND= value must be a numeric value between 0 and 4095.

System action: Processing continues with the default value from the options module.

User response: Provide a valid ABEND= value.

ATY6041E RETRYATT= VALUE MUST BE NUMERIC BETWEEN 1-99

Explanation: The RETRYATT = value must be a numeric value between 1 and 99.

System action: Processing continues with the default value from the options module.

User response: Provide a valid RETRYATT = value.

ATY6042E RETRYSEC= VALUE MUST BE NUMERIC BETWEEN 1-999

Explanation: The RETRYSEC= value must be a numeric value between 1 and 999.

System action: Processing continues with the default value from the options module.

User response: Provide a valid RETRYSEC= value.

ATY6043E DFS0488I= VALUES (UP TO 20 2-DIGIT PAIRS) MUST BE NUMERIC

Explanation: The DFS0488I= values must be up to 20 two digit pairs.

System action: Processing continues with the default values from the options module.

User response: Provide valid DFS0488I= values.

ATY6044E TIMEOUT= VALUE MUST BE NUMERIC BETWEEN 1-1440

Explanation: The TIMEOUT= value must be a numeric value between 1-1440.

System action: Processing continues with the default values from the options module.

User response: Provide a valid TIMEOUT== value.

ATY6045E GLOBAL OPTIONS RECORD MAINTENANCE COMPLETE

Explanation: The IMS Administration Tool user interface function that maintains the global record in the options data set completed successfully.

System action: The user interface continues.

User response: N/A

ATY6046E ATY VSAM OPTIONS DATA SET NOT FOUND
The IMS Administration Tool user interface that maintains the options data set was not able to locate the data set specified on the IMS Administration Tool Primary Options Menu.

The user interface continues.

Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODIO).

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

The user interface continues.

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODIO).

The options data set has not been properly initialized.

The user interface continues.

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODIO).

The options data set has been initialized.

The user interface continues.

N/A

The options data set global record update screen was used, but no changes were made to the global record.

The user interface continues.

N/A

The options data set global record has been successfully updated.

The user interface continues.

N/A

The options data set has not been properly initialized.

The user interface continues.
Explanation
The IMS Administration Tool user interface function encountered an unexpected error while attempting to update the global record in the options data set.

System action
The user interface continues.

User response
Take any required action based on accompanying messages, or contact IBM Software Support.

ATY6110E ATYVSAM OPEN ERROR
REASON=rsn

Explanation
The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6111E ATYVSAM PUT ERROR RC=rc
REASON=rsn

Explanation
The IMS Administration Tool user interface function was unable to update the global record in the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY6112E ATYVSAM GET ERROR RC=rc
REASON=rsn

Explanation
The IMS Administration Tool user interface function was unable to retrieve the global record from the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY6115E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15
RET=rc RSN=rsn

Explanation
The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action
The update process is disallowed.

User response
Contact your security department to obtain proper authorization.

ATY6151I ATY IMS COMMAND PROCESSING COMPLETE

Explanation
IMS command processing function completed successfully.

System action
Processing continues.

User response
None. This message is informational.

ATY6152E ATY OPTIONS DATA SET NOT FOUND

Explanation
The IMS Administration Tool user interface function that issues IMS commands was not able to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.
Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

**Explanation**
The IMS Administration Tool user interface function encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

**System action**
The user interface continues.

**User response**
Correct the condition based on any other accompanying messages that might have also been displayed, or check the dynamic allocation messages for more information about the error.

**Explanation**
The user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

**System action**
The user interface continues.

**User response**
Correct or remove the entry as required.

**Explanation**
The IMS Administration Tool user interface function did not recognize the command/option entered at the ISPF command prompt.

**System action**
The user interface continues.

**User response**
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

**Explanation**
IMS Administration Tool could not locate the IMS command group record in the VSAM options data set that matched the group name specified in the command panel.

**System action**
Processing continues.

**User response**
Register the command group or remove the command group as required.

**Explanation**
The IMS Administration Tool user interface function was unable to retrieve the global record from the options data set.

**System action**
The user interface continues.

**User response**
Specify a valid and/or allowed command, and retry.

**Explanation**
The IMS Administration Tool user interface function disallows certain IMS commands that would prevent the use of the IMS Administration Tool user interface. Examples of such commands include /CHE FREEZE and /STOP APPC.

**System action**
The user interface continues.

**User response**
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).
**Explanation**  
The IMS Administration Tool user interface function did not locate any IMS records in the options data set.

**System action**  
The user interface continues.

**User response**  
If the options data set was initialized, complete the customization for your environment by adding the appropriate IMS records before trying to use this panel to issue IMS commands.

**ATY6167E**  
YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15  
RET=rc RSN=rsn

**Explanation**  
The attempted operation is protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

**System action**  
The update process is disallowed.

**User response**  
Contact your security department to obtain proper authorization.

**ATY6168E**  
OPEN ERROR FOR /DSN= DATA SET

**Explanation**  
A /DSN command was entered, but failed because an error occurred attempting to open the specified data set. Additional message might be displayed on the z/OS Syslog.

**System action**  
The command is bypassed.

**User response**  
Correct the problem with the data set and retry the operation.

**ATY6169E**  
DATA SET NAME SPECIFIED FOR /DSN= NOT FOUND

**Explanation**  
The name specified in the /DSN= field is not defined for this system.

**ATY6170E**  
MEMBER NAME SPECIFIED FOR /DSN= NOT FOUND

**Explanation**  
The PDS member name in the /DSN= field is not present in the specified data set.

**System action**  
The command is bypassed.

**User response**  
Specify a valid member name in the /DSN= field and retry the command.

**ATY6171E**  
DYNALLOC ERROR FOR DSNAME SPECIFIED FOR /DSN= RC=rc  
RSN=rsn

**Explanation**  
A dynamic allocation error occurred for the data set specified in the /DSN= field.

**System action**  
The command is bypassed.

**User response**  
Correct the error that caused the dynamic allocation failure and retry the operation.

**ATY6174I**  
CLEAR IMS COMMAND AREA TO SEE LIST OF RECENT COMMANDS

**Explanation**  
To view a list of recent IMS commands entered from this IMS Administration Tool user interface, clear the IMS command line and press enter.

**System action**  
The user interface continues.

**User response**  
N/A
**ATY6175E**  ATYPROC COMMAND LIST NOT FOUND

**Explanation**
The command list specified on a /ATYPROC command was not found.

**System action**
The user interface continues.

**User response**
Correct the name of the command list and retry the command.

**ATY6176E**  ATYPROC COMMAND LIST NOT SPECIFIED

**Explanation**
The /ATYPROC command requires a member name to be specified.

**System action**
The user interface continues.

**User response**
Specify a valid member name and retry the command.

**ATY6177E**  /DSN= LIBRARY MEMBER NOT FOUND

**Explanation**
The PDS member name in the /DSN= field is not present in the specified data set.

**System action**
The command is bypassed.

**User response**
Specify a valid member name in the /DSN= field and retry the command.

**ATY6179E**  ATYPROC DD STATEMENT NOT ALLOCATED

**Explanation**
The /ATYPROC command was attempted, but there is not a ATYPROC DDNAME allocated to the TSO session.

**System action**
The user interface continues.

**User response**
Check for any messages in the syslog for the TSO user's address space and make any required corrections.

**ATY6182E**  ATYPROC MEMBER PROCESSING ERROR

**Explanation**
While using the IMS Administration Tool ISPF component IMS command screen, an unexpected error occurred processing a /ATYPROC command.

**System action**
The IMS Administration Tool ISPF terminates its processing of a /ATYPROC or /DSN= command.

**User response**
Check for any messages in the syslog for the TSO user's address space and make any required corrections.
**ATY6183E**  /DSN= DATA SET DOES NOT CONTAIN ANY INPUT

**Explanation**
An empty data set was specified on the /DSN= command.

**System action**
The command is bypassed.

**User response**
Correct the input and retry the command.

---

**ATY6184E**  ATYPROC MEMBER DOES NOT CONTAIN ANY INPUT

**Explanation**
An empty member was specified on the /ATYPROC command.

**System action**
The command is bypassed.

**User response**
Correct the input and retry the command.

---

**ATY6185E**  ALL ATY GROUP MEMBERS NOT USING IMS OM

**Explanation**
IMS Administration Tool user interface user is attempting to issue IMS commands to an IMS Administration Tool Group where at least one IMS member is not using the IMS Operations Manager.

**System action**
The IMS command is not issued.

**User response**
Either change all IMS Administration Tool Group members to use IMS Operations Manager, or make sure no members in the IMS Administration Tool Group are using IMS Operations Manager.

---

**ATY6186E**  ATY GROUP MEMBERS NOT USING SAME IMSPLEX NAME

**Explanation**
IMS Administration Tool user interface user is attempting to issue IMS commands to an IMS Administration Tool Group where at least one IMS member is not using the same IMSPLEX name as the other IMS members in the IMS Administration Tool Group.

**System action**
The IMS command is not issued.

**User response**
Correct the IMSPLEX name using the IMS System Information panel.

---

**ATY6187E**  NO IMS SYSTEMS DEFINED FOR THIS ATY GROUP

**Explanation**
IMS Administration Tool user interface user is attempting to issue IMS commands to an IMS Administration Tool Group but the IMS Administration Tool Group has no IMS members defined for it.

**System action**
The IMS command is not issued.

**User response**
Add IMS members to the IMS Administration Tool Group or change the IMS Administration Tool Group on the IMS Command panel.

---

**ATY6188E**  IMSID ims IS DEFINED IN ATY GROUP BUT DOES NOT EXIST

**Explanation**
IMS Administration Tool user interface user is attempting to issue IMS commands to an IMS Administration Tool Group but the named IMSID (ims) has not been defined using the IMS System Information panel.

**System action**
The IMS command is not issued.

**User response**
Add the IMSID using the IMS System Information panel, or remove the IMSID from the IMS Administration Tool Group using the IMS Administration Tool Group IMSID List panel.

---

**ATY6190E**  USE OF GROUP/IMSID NOT AUTHORIZED

**Explanation**
Use of the IMS Administration Tool Group or the IMS subsystem is not authorized.
System action:
The command is not run.

User response:
See your Security Administrator.

**ATY6202E** ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation
The IMS Administration Tool user interface function that maintains the job records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

**ATY6203E** ATYVSAM SVC99 RC=rc FOR dsn

Explanation
The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

**ATY6204E** ATYVSAM OPEN ERROR REASON=rsn

Explanation
An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action
The user interface continues.

**ATY6205E** ATYVSAM EMPTY KSDS INIT FAILURE

Explanation
The options data set has not been properly initialized.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

**ATY6206I** ATYVSAM EMPTY KSDS INIT SUCCESSFUL

Explanation
The options data set has been initialized.

System action
The user interface continues.

User response
N/A

**ATY6207I** JOB RECORD MAINTENANCE COMPLETE

Explanation
The options data set job record update has completed.

System action
The user interface continues.

User response
N/A

**ATY6209E** ATYVSAM UPDATE ERROR

Explanation
The IMS Administration Tool user interface function encountered an unexpected error while attempting to update a job record in the options data set.
System action
The user interface continues.

User response
Take any required action based on accompanying messages or contact IBM Software Support.

**ATY6210E**

**Explanation**
The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

**ATY6211E**

**Explanation**
The IMS Administration Tool user interface function was unable to update a job record in the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the message text.

**ATY6212E**

**Explanation**
The IMS Administration Tool user interface function was unable to retrieve a job record from the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the message text.

**ATY6213E**

**Explanation**
The value specified in the Jobname/JobMask field is invalid.

System action
Updates are bypassed.

User response
Correct the name in the Jobname/JobMask field and retry the update.

**ATY6215E**

**Explanation**
Invalid characters have been specified in the Jobname/JobMask field.

System action
Updates are bypassed.

User response
Correct the name in the Jobname/JobMask field and retry the update.

**ATY6216E**

**Explanation**
An invalid name has been specified in the Jobname/JobMask field.

System action
Updates are bypassed.

User response
Change the first character of the Jobname/JobMask field to one of the listed values.

**ATY6217E**

**Explanation**
You need RACF authorization for this function - R15=r15 RET=rc RSN=rsn.
Explanation
The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action
The update process is disallowed.

User response
Contact your security department to obtain proper authorization.

ATY6218I  LOCATE FAILED - END OF JOB LIST REACHED

Explanation
IMS Administration Tool user interface user has entered a locate command for a jobname from the Job List panel, but no matches were found for the entered name.

System action
The Job List panel is displayed again.

User response
Specify another locate command if necessary.

ATY6301I  ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation
The IMS Administration Tool user interface function that maintains the IMS records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODIO).

ATY6303E  ATYVSAM SVC99 RC=rc FOR dsn

Explanation
The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6304E  ATYVSAM OPEN ERROR REASON=rsn

Explanation
An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODIO).

ATY6305E  ATYVSAM EMPTY KSDS INIT FAILURE

Explanation
The options data set has not been properly initialized.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODIO).

ATY6306I  ATYVSAM EMPTY KSDS INIT SUCCESSFUL

Explanation
The options data set has been initialized.

System action
The user interface continues.
<table>
<thead>
<tr>
<th>User response</th>
<th>System action</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>The user interface continues.</td>
<td>The options data set IMS record update has completed.</td>
<td>N/A</td>
</tr>
<tr>
<td>ATY6307I</td>
<td>The user interface continues.</td>
<td>IMS RECORD MAINTENANCE COMPLETE</td>
<td>ATY6308I</td>
</tr>
<tr>
<td>Explanation</td>
<td>The user interface continues.</td>
<td>The options data set IMS record has been successfully updated.</td>
<td>N/A</td>
</tr>
<tr>
<td>ATY6309E</td>
<td>The user interface continues.</td>
<td>ATYVSAM UPDATE ERROR</td>
<td>N/A</td>
</tr>
<tr>
<td>Explanation</td>
<td>The user interface continues.</td>
<td>The IMS Administration Tool user interface function encountered an unexpected error while attempting to update an IMS record in the options data set.</td>
<td>ATY6310E</td>
</tr>
<tr>
<td>System action</td>
<td>The user interface continues.</td>
<td>ATYVSAM OPEN ERROR</td>
<td>ATY6311E</td>
</tr>
<tr>
<td>User response</td>
<td>Take any required action based on accompanying messages or contact IBM Software Support.</td>
<td>IMSID CANNOT BE LEFT BLANK</td>
<td>ATY6312E</td>
</tr>
<tr>
<td>ATY6313E</td>
<td>Updates are bypassed.</td>
<td>IMSID CANNOT BE LEFT BLANK</td>
<td>ATY6313E</td>
</tr>
<tr>
<td>Explanation</td>
<td>Enter an IMSID value and retry the update.</td>
<td>The IMS field must be specified.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Explanation**

The options data set IMS record update has completed.

**System action**

The user interface continues.

**User response**

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

**Explanation**

The options data set IMS record has been successfully updated.

**System action**

The user interface continues.

**User response**

Take any corrective action required based on the VSAM return information displayed in the text of the message.

**Explanation**

The IMS Administration Tool user interface function was unable to retrieve an IMS record from the options data set.

**System action**

The user interface continues.

**User response**

Take any corrective action required based on the VSAM return information displayed in the message text.

**Explanation**

The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

**System action**

Updates are bypassed.

**User response**

Enter an IMSID value and retry the update.
ATY6314I NO IMS RECORDS FOUND

Explanation
This informational message indicates that this is the first IMS record being added to the options data set.

System action
The user interface continues.

User response
Enter the required IMS information.

ATY6315E YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15 RET=rc RSN=rsn

Explanation
The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action
The update process is disallowed.

User response
Contact your security department to obtain proper authorization.

ATY6316I LOCATE FAILED - END OF IMS SYSTEM LIST REACHED

Explanation
IMS Administration Tool user interface user has entered a locate command for an IMS system from the IMS System List panel, but no matches were found for the entered name.

System action
The IMS System List panel is displayed again.

User response
Specify another locate command if necessary.

ATY6317E INVALID VALUE IN COMMAND ROUTING TECHNIQUE

Explanation
The value specified for the Command Routing Technique is not one of the listed values.

System action
Updates are bypassed.

User response
Change the value in the Command Routing Technique field to one of the listed values and try the operation again.

ATY6318E RESTRICTED VALUE IN USER DFSAOE00 NAME

Explanation
The value specified for User DFSAOE00 Name is not allowed by IMS Administration Tool.

System action
Updates are bypassed.

User response
Change the value in the User DFSAOE00 Name to one allowed by IMS Administration Tool and retry the operation.

ATY6401I ATY IMSPLEX MAINTENANCE COMPLETE

Explanation
The IMS Administration Tool user interface function that maintains the IMS Administration Tool group records in the options data set completed successfully.

System action
The user interface continues.

User response
N/A

ATY6402E ATY VSAM OPTIONS DATA SET NOT FOUND dsn

Explanation
The IMS Administration Tool user interface function that maintains the IMS Administration Tool group records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.
User response
Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODIO).

**ATY6403E**  ATYVSAM SVC99 RC=rc FOR

**Explanation**
The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

**System action**
The user interface continues.

**User response**
Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

**ATY6404E**  ATYVSAM OPEN ERROR REASON=rsn

**Explanation**
An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

**System action**
The user interface continues.

**User response**
Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

**ATY6405E**  ATYVSAM EMPTY KSDS INIT FAILURE

**Explanation**
The options data set has not been properly initialized.

**System action**
The user interface continues.

**User response**
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODIO).

**ATY6406I**  ATYVSAM EMPTY KSDS INIT SUCCESSFUL

**Explanation**
The options data set has been initialized.

**System action**
The user interface continues.

**User response**
N/A

**ATY6407I**  ATY IMSPLEX RECORD MAINTENANCE COMPLETE

**Explanation**
The options data set IMS Administration Tool group record update has completed.

**System action**
The user interface continues.

**User response**
N/A

**ATY6408I**  ATY IMSPLEX RECORD SAVED

**Explanation**
The options data set IMS Administration Tool group record has been successfully updated.

**System action**
The user interface continues.

**User response**
N/A

**ATY6409E**  ATYVSAM UPDATE ERROR

**Explanation**
The IMS Administration Tool user interface function encountered an unexpected error while attempting to update a IMS Administration Tool group record in the options data set.
System action
The user interface continues.

User response
Take any required action based on accompanying messages or contact IBM Software Support.

**ATY6410E** ATYVSAM OPEN ERROR REASON=rsn

**Explanation**
The IMS Administration Tool user interface function was unable to open the options data set that was specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODIO).

**ATY6411E** ATYVSAM PUT ERROR RC=rc REASON=rsn

**Explanation**
The IMS Administration Tool user interface function was unable to update a IMS Administration Tool group record in the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the message text.

**ATY6412E** ATYVSAM GET ERROR RC=rc REASON=rsn

**Explanation**
The IMS Administration Tool user interface function was unable to retrieve a IMS Administration Tool group record from the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the message text.

**ATY6413E** IMSPLEX CANNOT BE LEFT BLANK

**Explanation**
The IMS Administration Tool group field must be specified.

System action
Updates are bypassed.

User response
Enter a IMS Administration Tool group name and retry the update.

**ATY6414I** NO ATY IMSPLEX RECORDS FOUND

**Explanation**
This informational message indicates that this is the first IMS Administration Tool group record being added to the options data set.

System action
The user interface continues.

User response
Enter the required IMS Administration Tool group information.

**ATY6415E** YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15 RET=rc RSN=rsn

**Explanation**
The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action
The update process is disallowed.

User response
Contact your security department to obtain proper authorization.

**ATY6416I** LOCATE FAILED - END OF ATY GROUP LIST REACHED
Explanation
IMS Administration Tool user interface user has entered a locate command for an IMS Administration Tool Group from the IMS Administration Tool Group List panel, but no matches were found for the entered name.

System action
The IMS Administration Tool Group List panel is displayed again.

User response
Specify another locate command if necessary.

ATY6501I ATY STORE/FORWARD EDIT COMPLETE

Explanation
The IMS Administration Tool user interface function has completed its editing of the store/forward data set.

System action
The user interface continues.

User response
N/A

ATY6502E ATY STORE/FORWARD DATA SET NOT FOUND

Explanation
The data set specified for store/forward is not defined on this system.

System action
The user interface continues.

User response
N/A

ATY6503E ATYSFVSM SVC99 RC=rc FOR dsn

Explanation
The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the store/forward data set.

System action
The user interface continues.

User response
Correct the name of the store/forward data set and retry the operation.

ATY6504E ATY STORE/FORWARD DATA SET IN USE

Explanation
The store/forward data set is in use by another job or user.

System action
The user interface continues.

User response
Try the operation after the other job or user completes the processing of the store/forward data set.

ATY6505I NO CHANGES TO ATY STORE/ FORWARD DATASET

Explanation
The edit session of the store/forward data set completed, but there were no updates made to the data set.

System action
The user interface continues.

User response
N/A

ATY6506I STORE/ FORWARD BROWSE SUCCESSFUL

Explanation
The browse session of the store/forward data set completed.

System action
The user interface continues.

User response
N/A

ATY6507I STORE/ FORWARD EDIT SUCCESSFUL
The edit of the store/forward data set successfully completed.

The user interface continues.

N/A

YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15
RET=rc RSN=rsn

The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

The update process is disallowed.

Contact your security department to obtain proper authorization.

WILDCARD TABLE INITIALIZATION FAILED

An error occurred attempting to build the wildcard table.

Skips the command and continues from the next command.

If any other error messages are issued before this message, follow the user response for those messages. If no error messages are issued before this message, contact IBM Software Support.

No names matched the wildcard pattern specified in the command.

The wildcard table has been obtained by issuing a /DIS x ALL command to the displayed IMS (ims) region.

Processing continues.

Contact your security department to obtain proper authorization.

The wildcard table has been obtained by issuing a /DIS x ALL command to the displayed IMS (ims) region.

Processing continues.

Contact your security department to obtain proper authorization.

The VSAM options data set is not specified in the ATY#OPTS module.

The user interface continues.

Create the VSAM options data set, specify the data set name to the ATY#OPTS module, and register the loadlib data set to the SYSLOAD variable. Instructions are provided in “Configure VSAM options data set” on page 26.

Create the VSAM options data set, specify the data set name to the ATY#OPTS module, and register the loadlib data set to the SYSLOAD variable. Instructions are provided in “Configure VSAM options data set” on page 26.

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Explanation

The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action

The user interface continues.

User response

Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY6704E  ATYVSAM OPEN ERROR REASON=rsn

Explanation

An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action

The user interface continues.

User response

Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY6708E  ATY LOGSTREAM CONNECT ERROR - RET=rc RSN=rsn LSN=lsn

Explanation

An error was encountered attempting to connect to the specified log stream (lsn) using service IXGCONN REQUEST=CONNECT.

System action

The user interface continues.

User response

Review the IXGCONN return and reason codes contained in rc and rsn, respectively. Correct the problem and retry the operation.

ATY6711E  NO RECORDS RETURNED FOR THIS SEARCH

Explanation

No records in the Message Log log stream matched the specified search criteria.

System action

The user interface continues.

User response

Adjust the search criteria and retry the operation.

ATY6714I  NO IMS SYSTEM RECORDS FOUND

Explanation

There were no IMS records in the options data set.

System action

The user interface continues.
User response
IMS Administration Tool customization is not complete until there are IMS definitions in the options data set. Add IMS definitions to the options data set and retry the operation.

**Explanation**
The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

**System action**
The update process is disallowed.

**User response**
Contact your security department to obtain proper authorization.

**ATY6715E**  YOU NEED RACF AUTHORIZATION FOR THIS FUNCTION - R15=r15 RET=rc RSN=rsn

**Explanation**
The IMS Administration Tool remote STC BMP ended abnormally with either a system (code1) or user (code2) abend.

**System action**
Processing is aborted.

**User response**
Correct the reason for the abnormal termination and rerun the job.

**ATY6900E**  ATY REMOTE BMP ABEND=Scod1 Ucode2

**Explanation**
A IMS Administration Tool internal error occurred.

**System action**
The job terminates abnormally with completion code U4083.

**User response**
Contact IBM Software Support.

**ATY7003E**  INVALID SCD ADDRESS PASSED

**Explanation**
A IMS Administration Tool internal error occurred.

**System action**
The job terminates abnormally with completion code U4083.

**User response**
Contact IBM Software Support.

**ATY7010E**  ATYSTFWD DDNAME MISSING

**Explanation**
Store/forward data set initialization failed due to missing DDNAME ATYSTFWD.

**System action**
The job terminates with a completion code of 16.

**User response**
Add the required DDNAME and rerun the job.

**ATY7101E**  ATYSTFWD DDNAME MISSING

**Explanation**
Store/forward data set initialization failed attempting to build VSAM control blocks. Additional error messages might be displayed on the z/OS Syslog.

**System action**
The job terminates abnormally.

**User response**
Correct any errors. If the problem persists, contact IBM Software Support.

**ATY7102E**  GENCB ACB1 ERROR

**Explanation**
Store/forward data set initialization failed attempting to build VSAM control blocks. Additional error messages might be displayed on the z/OS Syslog.

**System action**
The job terminates abnormally.

**User response**
Correct any errors. If the problem persists, contact IBM Software Support.

**ATY7103E**  GENCB RPL1 ERROR
Explanation
Store/forward data set initialization failed attempting to build VSAM control blocks. Additional error messages might be displayed on the z/OS Syslog.

System action
The job terminates abnormally.

User response
Correct any errors and rerun the job. If the problem persists, contact IBM Software Support.

ATY7104W  COMMAND STORE/FORWARD DATA SET ALREADY INITIALIZED

Explanation
An attempt was made to initialization the store/forward data set, but the data set has already been initialized.

System action
The job terminates with a completion code of 4.

User response
N/A

ATY7105E  ATYVSAM INIT ERROR

Explanation
An error was encountered attempting to write the header record to the store/forward data set.

System action
The job terminates abnormally.

User response
Correct any errors and rerun the job. If the problem persists, contact IBM Software Support.

ATY7106I  COMMAND STORE/FORWARD DATA SET INITIALIZATION SUCCESSFUL

Explanation
The store/forward data has been successfully initialized.

System action
Processing continues.

User response
Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.

ATY7201I  EITHER MSG DISP OR AOITOKEN REQUIRED

Explanation
One or both of the listed values must be specified.

System action
Updates bypassed.

User response
Correct the information on the screen and retry the operation.

ATY7202E  ATY VSAM OPTIONS DATA SET NOT FOUND

Explanation
The IMS Administration Tool user interface function that maintains the MSG records was unable to locate the data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Correct the data set name, or allocate and initialize the specified name as required. If you are creating a new data set, use the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY7203E  ATYVSAM SVC99 RC=rc FOR dsn

Explanation
The IMS Administration Tool user interface encountered an error while attempting to dynamically allocate the options data set specified on the IMS Administration Tool Primary Options Menu.

System action
The user interface continues.

User response
Correct the condition based on any other accompanying message that might have been displayed, or check the dynamic allocation messages for more information.
ATY7204E  ATYVSAM OPEN ERROR
REASON=rsn

Explanation
An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY7205I  MSG DISPOSITION RECORD
MAINTENANCE COMPLETE

Explanation
The options data set MSG table record update has completed.

System action
The user interface continues.

User response
N/A

ATY7206I  MSG DISPOSITION RECORD
SAVED

Explanation
The options data set MSG table record has been successfully updated.

System action
The user interface continues.

User response
N/A

ATY7207E  ATYVSAM OPEN ERROR
REASON=rsn

Explanation
An error occurred attempting to open the options data set. The error might be due to the options data set not being properly initialized. Additional message information might be displayed on the z/OS Syslog.

System action
The user interface continues.

User response
Make sure the options data set has been properly initialized using the IMS Administration Tool options data set initialization utility (ATYUODI0).

ATY7208E  ATYVSAM PUT ERROR RC=rc
REASON=rsn

Explanation
The IMS Administration Tool user interface function was unable to update a MSG table record in the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY7209E  ATYVSAM GET ERROR RC=rc
REASON=rsn

Explanation
The IMS Administration Tool user interface function was unable to retrieve a MSG table record in the options data set.

System action
The user interface continues.

User response
Take any corrective action required based on the VSAM return information displayed in the text of the message.

ATY7210I  NO MSG DISPOSITION RECORDS
FOUND

Explanation
The IMS Administration Tool user interface function did not locate any MSG table records in the options data set.

System action
The user interface continues.
You need RACF authorization for this function - R15=r15 RET=rc RSN=rsn

Explanation
The attempted operation was protected in the RACF FACILITY class. The RACF user ID that is attempting to perform this function does not have proper security authorization.

System action
The update process is disallowed.

User response
Contact your security department to obtain proper authorization.

Locate failed - end of message disposition list reached

Explanation
IMS Administration Tool user interface user has entered a locate command for a msgtable from the Message Disposition List panel, but no matches were found for the entered name.

System action
The Message Disposition List panel is displayed again.

User response
Specify another locate command if necessary.

ATY7301E ATYLSCD received an incorrect number of parameters

Explanation
A IMS Administration Tool internal error has occurred.

System action
The job terminates abnormally with completion code U4083.

User response
Contact IBM Software Support.

CSLSCREG failed for: CSLplex RC=rc RSN=rsn

Explanation
An error was encountered attempting to connect to the Common Service Layer PLEX plex. The return and reason codes are contained in rc and rsn, respectively.

System action
The job terminates with the user-defined return code or user-defined abend code.

User response
Find the return (rc) and reason (rsn) code for CSLSCREG in the IMS Common Service Layer Guide and Reference.

CSLSCQRY failed, RC=rc RSN=rsn

Explanation
An error was encountered attempting to query the Common Service Layer PLEX plex. The return and reason codes are contained in rc and rsn, respectively.

System action
The job terminates with the user-defined return code or user-defined abend code.

User response
Find the return (rc) and reason (rsn) code for CSLSCREG in the IMS Common Service Layer Guide and Reference.

No data returned from CSLSCQRY

Explanation
The CSLSCQRY did not return any data.

System action
The job terminates with the user-defined return code or user-defined abend code.

User response
Contact IBM Software Support.

Invalid data returned from CSLSCQRY

Explanation
ATY could not identify the data returned from the CSLSCQRY call.
System action
The job terminates with the user-defined return code or user-defined abend code.

User response
Contact IBM Software Support.

**ATY7405E** NO ENTRIES IN IMS OM GROUP

Explanation
IMS Administration Tool was able to connect to the Common Service Layer group, but there were no IMS systems connected.

System action
The job terminates with the user-defined return code or user-defined abend code.

User response
Wait for IMS regions to join the Operations Manager group and run the job again.

**ATY7406E** OPERATIONS MANAGER NOT ACTIVE IN GROUP: CSLplex

Explanation
IMS Administration Tool was able to connect to the Common Service Layer group, but the Operations Manager task was not active in the group.

System action
The job terminates with the user-defined return code or user-defined abend code.

User response
Wait for an Operations Manager task to join the group and run the job again.

**ATY7407W** IMS MEMBER ims FOUND IN CSL GROUP BUT NOT IN ATY GROUP

Explanation
IMS region ims was found in the Common Service Layer group, but it was not defined as being a part of the IMS Administration Tool group. Commands might get routed to this IMS.

System action
Processing continues.

User response
If ims should be part of the IMS Administration Tool group, use the IMS Administration Tool user interface to add it to the IMS Administration Tool group.

**ATY7408W** ATY GROUP MEMBER ims NOT ACTIVE IN CSL GROUP

Explanation
A member of a IMS Administration Tool group (ims) was not active in the Common Service Layer group.

System action
The action taken is determined by the setting for ROUTING errors.

User response
If ROUTING=IGNORE was specified and command store/forward is active, ensure the REDO BMP runs immediately at ims start up.

**ATY7409E** IMS ims NOT FOUND IN ATY GROUP

Explanation
IMS region ims was found in the Common Service Layer group, but it was not defined as being a part of the IMS Administration Tool group. Commands might get routed to this IMS.

System action
Processing continues.

User response
If ims should be part of the IMS Administration Tool group, use the IMS Administration Tool user interface to add it to the IMS Administration Tool group.

**ATY7410E** MEMBER ims IS NOT ACTIVE IN CSL GROUP

Explanation
A member of a IMS Administration Tool group (ims) was not active in the Common Service Layer group.

System action
The action taken is determined by the setting for ROUTING errors.
If ROUTING=IGNORE was specified and command store/forward is active, ensure the REDO BMP runs immediately at ims start up.

**Explanation**
IMS Administration Tool was able to connect to the Common Service Layer group, but there were no active IMS regions in the group.

**System action**
The job terminates with the user-defined return code or user-defined abend code.

**User response**
Wait for the IMS regions to join the group and run the job again.

**ATY7414E**
/ MOD PREPARE FAILED, CSLOMCMD RC=rc RSN=rsn

**Explanation**
An error was encountered processing a /MOD PREPARE command using the CSLOMCMD call. The return and reason codes are contained in rc and rsn, respectively.

**System action**
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

**User response**
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

**ATY7415I**
DATAGRP NOT DEFINED, BYPASSING COMMAND DUE TO ERR488= SPECIFICATION

**Explanation**
DATAGRPEXP=Y is in effect, but IMS Administration Tool could not obtain a list of database names from DBRC. This might be due to the DATAGRP not being defined, or the wrong set of RECON data sets in the STEPLIB concatenation.

**System action**
The job terminates with a user-defined return code or user-defined abend code.

**User response**
Turn off DATAGRPEXP, define the DATAGRP to DBRC, or add the correct RECON data sets to the STEPLIB concatenation, and run the job again.

**ATY7416E**
CSLOMCMD COMMAND ISSUED RC=rc RSN=rsn

**Explanation**
An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in rc and rsn, respectively.
System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

ATY7417W  CSLOMCMD COMMAND ISSUED
RC=rc RSN=rsn

Explanation
An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in rc and rsn, respectively.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

ATY7418I  ONLINE CHANGE FUNCTION SUCCESSFUL

Explanation
/ATYMOD processing successfully completed.

System action
Processing continues.

User response
N/A

ATY7419E  "NO WORK PENDING" NOT RECEIVED, ABORT STARTED

Explanation
After successfully issuing a /MOD PREPARE command to all IMS regions, the /DIS MODIFY ALL did not receive the NO WORK PENDING message for all systems.

System action
If /ATYMOD processing is failing, IMS Administration Tool issues /MOD ABORT to all IMS regions. After the abort processing completes, depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
Determine the reason why the NO WORK PENDING message was not received, correct the condition preventing the online change, and run the job again.

ATY7420E  ddn LIBRARY NOT SWAPPED ON ims

Explanation
A IMS Administration Tool internal error occurred. After what was believed to be a successful online change, there are libraries that did not change DDNAME suffixes.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
Contact IBM Software Support.

ATY7421E  MAX RETRIES REACHED, ABORT PROCESS STARTED

Explanation
The /ATYMOD process did not receive the NO WORK PENDING display from all systems even after the maximum number of retry attempts.

System action
/MOD ABORT processing is started. The job terminates with the user-defined return code or user-defined abend code.

User response
Correct the problem that was preventing the NO WORK PENDING display and run the job again.

ATY7422W  CSLOMCMD COMMAND ISSUED
RC=rc RSN=rsn

Explanation
An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in rc and rsn, respectively.
System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

**ATY7423E** ONLINE CHANGE FAILED, /MOD REVERSE BEING INITIATED

**Explanation**
A /MOD COMMIT failed on an IMS system after a /MOD COMMIT was successful on one or more IMS systems. Because MODREVERSE=Y is in effect, IMS Administration Tool attempts to restore the IMS systems where the /MOD COMMIT was successful to pre-online change state.

System action
After MODREVERSE processing completes, and dependent upon the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
Ensure all IMS systems were returned to pre-online change state, correct the condition that caused the /MOD COMMIT to fail, and run the job again.

**ATY7424E** ONLINE CHANGE FAILED, TERMINATING

**Explanation**
A severe error occurred during /ATYMOD processing. Prior messages describe the condition that caused the online change failure.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
Follow user response for previously displayed messages.

**ATY7425E** ONLINE CHANGE FAILED, IMS SYSTEM(S) NOT ACTIVE

**Explanation**
A /ATYMOD predefined procedure determines that all members of a IMS Administration Tool group are not active in the Common Service Layer group.

System action
Depending upon the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
Wait for all members of the IMS Administration Tool group to become active and run the job again.

**ATY7426W** CSLOMCMC RECEIVED RC=rc RSN=rsn

**Explanation**
An error was encountered while attempting a command using the CSLOMCMC call. The return and reason codes are contained in rc and rsn, respectively.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

**ATY7427W** MAX RETRIES REACHED

**Explanation**
A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state.

System action
The action taken is determined by the setting for ERR488 errors.

User response
Review the conditions that caused the database command to be unsuccessful and take appropriate action.

**ATY7428E** JOB TERMINATING DUE TO ERR488 SPECIFICATION
**Explanation**
A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state.

**System action**
The job terminates due to the setting for ERR488 errors.

**User response**
Review the conditions that caused the database command to be unsuccessful and take appropriate action.

**ATY7429I COMMAND BYPASSED DUE TO OPERATOR RESPONSE**

**Explanation**
A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state. Error option ERR488=WTOR is in effect and the operator replied S to skip the failed command.

**System action**
Processing continues.

**User response**
Review the conditions that caused the database command to be unsuccessful and take appropriate action.

**ATY7430W COMMAND BYPASSED DUE TO ERR488=IGNORE SPECIFICATION**

**Explanation**
A database command has been attempted the number of times specified in RETRYATT and there are still databases not in the required state. The command is bypassed due to error option ERR488=IGNORE being in effect.

**System action**
Processing continues.

**User response**
Review the conditions that caused the database command to be unsuccessful and take appropriate action.

**ATY7432E TASK TERMINATING DUE TO ROUTING= SPECIFICATION**

**Explanation**
A command has been attempted the number of times specified in RETRYATT and still did not process successfully on all systems.

**System action**
The job terminates due to the setting for ROUTING errors.

**User response**
Review the conditions that caused the command to be unsuccessful and take appropriate action.

**ATY7433I UNAVAILABLE IMS BYPASSED DUE TO ROUTING=IGNORE SPECIFICATION**

**Explanation**
A command has been attempted the number of times specified in RETRYATT and still did not process successfully on all systems.

**System action**
If command store/forward is active, the command is written to the store/forward data set. The job continues processing.

**User response**
Review the conditions that caused the command to be unsuccessful and take appropriate action. If the command is written to the store/forward data set,
ensure the REDO BMP runs when the failed IMS is restarted.

**ATY7434I**  
ROUTING=IGNORE ESTABLISHED DUE TO OPERATOR RESPONSE

**Explanation**  
After a command failed due to a routing error, an operator replied S to skip routing errors. For this and all subsequent commands, routing errors are skipped.

**System action**  
Processing continues.

**User response**  
N/A

**ATY7435I**  
IMS AVAILABILITY RE-VERIFIED DUE TO OPERATOR RESPONSE

**Explanation**  
A command failed due to a routing error and an operator replied R to retry the failed command.

**System action**  
The command is tried again.

**User response**  
N/A

**ATY7436I**  
REQUESTED IMS IS NOT ACTIVE IN THE CSL GROUP

**Explanation**  
A command is being routed to a specific IMS system, but that system is not active in the Common Service Layer group.

**System action**  
Processing continues.

**User response**  
N/A

**ATY7437E**  
ERROR ATTEMPTING DBRC VALIDATION, VALIDATION BYPASSED

**Explanation**  
An error described by a prior message was encountered during DBRC validation.

**System action**  
DBRC validation is not performed and the job proceeds as determined by the prior error condition.

**User response**  
Follow the User Response described in prior error message.

**ATY7438E**  
DB OPEN FOR SSID= ssid ACC= access DBD= database AREA= area

**Explanation**  
An IMS /DBD or /DBR command was issued and DBRC validation was requested, but one or more databases are registered in the RECON as being open with an UPDATE intent.

- SSID= shows the subsystem that is using AREA
- ACC= shows the processing intent
- DBD= shows the database
- AREA= shows the AREA name

**System action**  
The action taken is determined by the setting for DBRC errors.

**User response**  
Review prior messages and determine if the command needs to be reissued.

**ATY7439E**  
DATABASE STILL AUTHORIZED IN DBRC, DBD: dbd

**Explanation**  
An IMS /DBD or /DBR command was issued and DBRC validation was requested, however, one or more databases are still registered in the RECON as being open with UPDATE intent.

**System action**  
The action taken is determined by the setting for DBRC errors.

**User response**  
Review prior messages and determine if command needs to be reissued.

**ATY7440E**  
DATABASE STILL AUTHORIZED IN DBRC, DBD: dbd AREA area
Explanation
An IMS /DBD or /DBR command was issued and DBRC validation was requested, however, one or more areas are still registered in the RECON as being open with UPDATE intent.

System action
The action taken is determined by the setting for DBRC errors.

User response
Review prior messages and determine if command needs to be reissued.

ATY7441I NO DATABASES OPEN WITH UPDATE INTENT

Explanation
DBRC shows that all database commands executed successfully.

System action
The job step continues processing.

User response
N/A

ATY7442I DBRC VALIDATION SUCCESSFUL

Explanation
DBRC validation successfully completed.

System action
Processing continues.

User response
N/A

ATY7443W COMMAND BYPASSED DUE TO OPERATOR RESPONSE

Explanation
A database failed DBRC validation, the error option DBRC=WTOR is in effect, and the operator replied R to retry the command.

System action
The command is tried again.

User response
N/A

ATY7444E DBRC MODULE DFSURX00 NOT FOUND, BYPASSING DBRC PROCESSING

Explanation
DBRC has been requested for either DB verification, or to set ACCESS, but the DBRC load module is not found.

System action
The action taken is determined by the DRBC= option.

User response
If DBRC usage is required, add IMS SDFSRESL to the STEPLIB. If DBRC usage is not required, set options DBRC=NODBRC.

ATY7445W CSLOMCMD RECEIVED RC=rc RSN=rsn

Explanation
An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in rc and rsn, respectively.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

ATY7446W CSLOMCMD RECEIVED RC=rc RSN=rsn

Explanation
An error was encountered while attempting a command using the CSLOMCMD call. The return and reason codes are contained in rc and rsn, respectively.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.
User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and rerun the job.

**ATY7447I**  
FOLLOWING COMMAND SAVED IN STORE/FORWARD FOR IMS: **ims**

Explanation
The following command encountered routing errors on IMS (**ims**) and is saved in the store/forward data set for subsequent processing.

System action
The failed command is written to the store/forward data set and processing continues.

User response
None. This message is informational.

**ATY7448E**  
CSLOMCMD RECEIVED RC= **return code** RSN= **reason code**

Explanation
An error was encountered while attempting a command using the CSLOMCMD call.

The return and reason codes are contained in **rc** and **rsn**, respectively.

System action
Depending on the MODFAIL setting, the job terminates with a user-defined return code or user-defined abend code.

User response
The return and reason codes can be found in the IMS Common Service Layer Guide and Reference. Correct the reason for the failure and run the job again.

**ATY7449W**  
MAX RETRY ATTEMPTS REACHED

Explanation
A command has been attempted the number of times specified in RETRYATT and did not complete successfully on all systems.

System action
The action taken is dependent on the options in effect for the job.

User response
Review the conditions that caused the command to be unsuccessful and take appropriate action.

**ATY7450W**  
END OF TABLE ENCOUNTERED BUILDING DBRC DB TABLE

Explanation
Option DBACCESS=DBRC was requested, but more databases than expected were found when processing the output of a LIST.DB command. The remaining databases are not added to the DBRC table.

System action
The job step continues.

User response
The maximum size of the table might need to be increased. Contact IBM Software Support for information.

**ATY7451E**  
MODBLKS READ ROUTINE FAILED

Explanation
Option DBACCESS=GEN was requested, but an error was encountered attempting to read the MODBLKS data set.

System action
The job terminates based upon the setting for GENERAL errors. If GENERAL=SETRC, the job terminates using the value set in SETRC. Otherwise, the job terminates using the user-defined abend code.

User response
Using the IMS Administration Tool user interface, ensure the IMS System Information in the IMS record is defined correctly.

**ATY7452W**  
RETRY NOT ATTEMPTED FOR IMS: **ims** - NOT IN CSL GROUP

Explanation
A prior execution of a command failed on **ims**. While attempting a command retry, the system determined that the command should be skipped because **ims** is not active in the Common Service Layer group.

System action
Command is bypassed and processing continues.
User response

None. This message is informational.

ATY7453W OPERATIONS MANAGER DETERMINED COMMAND CONTAINED INVALID KEYWORD

Explanation
IMS Administration Tool batch processor received return code x'02000008' and reason code x'00002004' on a CSLOMCMD call. The return and reason code indicate that IMS Operations Manager determined the keyword specified in the command is invalid.

System action
The action taken depends upon the setting for GENERAL errors. The following error settings and actions are possible:

WTOR
Message ATY7460A will be issued to the z/OS syslog. IMS Administration Tool batch processing will proceed based upon the operator response to the WTOR.

SETRC
Terminate the job step using the user-defined return code.

ABEND
Terminate the job step using the user-defined abend code.

IGNORE
This record is skipped and processing continues as if no error were encountered.

User response
Correct the command and run the job again.

ATY7455I IMS OPERATIONS MANAGER DETERMINED COMMAND IS INVALID

Explanation
IMS Administration Tool batch processor received return code x'02000008' and reason code x'00002004' on a CSLOMCMD call. The return and reason code indicate that IMS Operations Manager determined the keyword specified in the command is invalid.

System action
The action taken depends upon the setting for GENERAL errors. The following error settings and actions are possible:

WTOR
Message ATY7460A will be issued to the z/OS syslog. IMS Administration Tool batch processing will proceed based upon the operator response to the WTOR.

SETRC
Terminate the job step using the user-defined return code.

ABEND
Terminate the job step using the user-defined abend code.

IGNORE
This record is skipped and processing continues as if no error were encountered.

User response
Correct the command and run the job again.

ATY7456I NO MODBLKS DDNAME, DRD ASSUMED FOR imsid

Explanation
IMS Administration Tool assumes that dynamic resource definition (DRD) is used in the indicated IMS.

System action
Processing continues.

User response
None. This message is informational.

ATY7460A REPLY "T" TO TERMINATE JOB OR "S" TO SKIP COMMAND
Explanation
This is a WTOR message waiting for operator's response.

This message is issued along with message ATY7453W, which indicates that the keyword specified in the command is invalid.

System action
IMS command processing batch job waits for the operator's response. Takes either of the following actions upon a response:

T
  Terminates the job.
S
  Skips the command and continues processing.

User response
Enter "T" or "S" to WTOR.
After the job ends, correct the command and rerun the job.

ATY7461E  DATA BASE COMMAND UNSUCCESSFUL

Explanation
A database command did not execute successfully. This message is accompanied by additional messages.

System action
Processing continues.

User response
Review the accompanying messages.

ATY7462E  IMS NOT AVAILABLE FOR COMMAND:

Explanation
This message precedes message ATY7497I and identifies a command that failed due to a routing error when ROUTING=WTOR is in effect.

System action
Processing continues.

User response
N/A

ATY7499I  ONE OR MORE DATA BASES STILL HELD IN DBRC

Explanation
DBRC validation has been requested, however, one or more databases are still registered in the RECON and open with update intent. This message is accompanied by ATY7460A.

System action
Processing continues.

User response
N/A

ATY7500I  ATY OPTIONS DATASET INITIALIZATION SUCCESSFUL

Explanation
The options data set utility successfully completed.

System action
Processing continues.

User response
None. This message is informational.

ATY7501W  ATY OPTIONS DATASET ALREADY INITIALIZED

Explanation
An attempt was made to initialize the options data set that was previously initialized.

System action
The job terminates with a completion code of 4.
**User response**
None. This message is informational.

**Explanation**
The options data set DDNAME, ATYODSET, was not specified in the JCL for this job.

**System action**
The job terminates with a completion code of 16.

**User response**
Correct the JCL and run the job again.

**Explanation**
IMS Administration Tool could not obtain the VSAM options data set because it failed to load the ATY#OPTS member.

**System action**
IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables and it cannot write log records to the log stream.

**User response**
Ensure the proper ATY#OPTS member is present in the STEPLIB of the IMS control region.

**Explanation**
An error was encountered while attempting to dynamically allocate the options data set specified.

**System action**
The message disposition tables are not loaded or refreshed.

**User response**
Ensure the proper ATY#OPTS member resides in the IMS control region.

**Explanation**
An error was encountered reading the VSAM options data set. The RPLFDBK is displayed as rplfdbk. IMS Administration Tool cannot obtain or refresh the message disposition tables.

**System action**
IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables.

**User response**
The RPLFDBK field shows the RPL feedback word from the VSAM GET MACRO. Refer to the topic "Record management return and reason codes" in z/OS DFSMS Macro Instructions for Data Sets.

Correct the error caused by the non-zero return code and run the job again.

If the problem persists, contact IBM Software Support.
Administration Tool cannot obtain or refresh the message disposition tables.

**System action**
IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables.

**User response**
The RPLFDBK field shows the RPL feedback word from the VSAM GET MACRO. Refer to the topic "Record management return and reason codes" in z/OS DFSMS Macro Instructions for Data Sets.

Correct the error caused by the non-zero return code and run the job again.

If the problem persists, contact IBM Software Support.

---

**Explanation**
An error was encountered attempting to connect, disconnect, or write to the log stream used for IMS Administration Tool Message Log processing using service IXGCONN or IXGWRITE.

**System action**
Processing continues, but the IMS Administration Tool Message Log is not available for this IMS.

**User response**
Review the IXGCONN or IXGWRITE return and reason codes contained in rc and rsn, respectively. Correct the problem and restart IMS.

---

**Explanation**
The IMS Administration Tool AOI exit (DFSAOE00) has attempted to load a user version of the AOI exit (dfsaoe01) but none was found. This is an error only if there should be a user version of the AOI exit. The default name for a user AOI exit is DFSAOE01, but this can be overridden in the IMS record in the options data set.

**System action**
Processing continues, but IMS Administration Tool does not pass messages to a user AOI exit (DFSAOE00). If AOI exit DFSAOUE0 is present, IMS Administration Tool continues to pass messages to it.

**User response**
If a user AOI exit is required, either rename the module to DFSAOE01 or update the IMS record in the options data set to reflect the correct exit name, and restart IMS.

---

**Explanation**
The log stream used by IMS Administration Tool for its Message Log has successfully completed initialization. The IMS Administration Tool AOI exit now writes messages to the Message Log.

**System action**
Processing continues.

**User response**
N/A
**Explanation**

This information message display the name of the log stream (log_stream) used by IMS Administration Tool for the Message Log.

**System action**

Processing continues.

**User response**

None. This message is informational.

**Explanation**

An error was encountered attempting to write a message to the log stream used for the IMS Administration Tool message log.

**System action**

Processing continues.

**User response**

Review the IXGWRITE return and reason codes contained in rc and rsn, respectively.

Take corrective action based upon the meaning of the return and reason codes.

**Explanation**

The ATYAOE00 exit initialization completed.

**System action**

Processing continues.

**User response**

None. This message is informational.

**Explanation**

The log stream name is not specified in the IMS record in the options data set. IMS Administration Tool Message Log is not active for this execution of IMS.

**System action**

Processing continues but the IMS Administration Tool Message Log is not active.

**User response**

If IMS Administration Tool Message Log processing is required, use the IMS Administration Tool user interface to specify the name of the log stream in the IMS record, and restart IMS.

**Explanation**

The AO exit routine of IMS Administration Tool failed in the initialization process.

**System action**

IMS Administration Tool stops processing IMS commands for the IMS.

**User response**

Ensure that the AO exit routine is configured correctly for the IMS. For more information, see “Implementing user exit routines” on page 24.

**Explanation**

IMS Administration Tool supports IMS Version 13 and later. The IMS Administration Tool ATYAOE00 exit routine identified that this IMS is non supported version.

**System action**

The ATYAOE00 exit routine does not process IMS Administration Tool functions for this IMS.

**User response**

Configure IMS Administration in an IMS whose version/release is supported by IMS Administration Tool.

**Explanation**

The requested function, which is one of refresh, connect, or disconnect, cannot be processed because another command is in progress.
**System action**
Skips the command and continues processing the next command.

**User response**
Enter the command again after the command that is currently being processed is completed.

**ATY8113I**
*function REQUEST FAILED-ALREADY function*

**Explanation**
The requested function, which is either connect or disconnect, cannot be processed because the function has already been executed.

**System action**
Skips the command and continues processing the next command.

**User response**
None. This message is informational.

**ATY8114I**
*MVS ATTACH FAILED ATTEMPTING ATYREFRESH OR CCFREFRESH RC=xx*

**Explanation**
A /LOG ATYREFRESH or CCFREFRESH command was entered. However, the IMS Administration Tool message disposition table could not be refreshed because the ATTACHX macro ended with the indicated return code.

**System action**
IMS Administration Tool processes IMS commands and responses. However, it cannot perform the error-handling that is defined in message disposition tables.

**User response**
Contact IBM Software Support.

**ATY8202I**
*ARCHIVE STARTED FOR LSN=lsn*

**Explanation**
The IMS Administration Tool Message Log archive utility has started processing log stream (lsn).

**System action**
Processing continues.

**ATY8203E**
*ERROR OPENING DD SYSIN*

**Explanation**
An error was encountered attempting to open DDNAME SYSIN. Additional messages might be displayed on the z/OS Syslog.

**System action**
The job terminates with a completion code of 12.

**User response**
Add DDNAME SYSIN and run the job again.

**ATY8204E**
*ERROR OPENING DD SYSPRINT*

**Explanation**
An error was encountered attempting to open DDNAME SYSPRINT. Additional messages might be displayed on the z/OS Syslog.

**System action**
The job is terminated with completion code 12.

**User response**
Add DDNAME SYSPRINT and run the job again.

**ATY8205E**
*ERROR OPENING DD LOGOUT*

**Explanation**
An error was encountered attempting to open DDNAME LOGOUT. Additional messages might be displayed on the z/OS Syslog.

**System action**
The job is terminated with a completion code of 12.

**User response**
Add DDNAME LOGOUT and run the job again.

**ATY8206I**
*ATY LOGGER ARCHIVE COMPLETE*

**Explanation**
The IMS Administration Tool Message Log archive utility successfully completed.

**System action**
Processing continues.
User response
None. This message is informational.

**Explanation**
A record read from DDNAME SYSIN did not contain recognizable data. ATYARCH0 expects control cards to start in column 1 or 2.

**System action**
The job terminates with a completion code of 12.

User response
Correct the control card and run the job again.

**ATY8251E**  PREVIOUS RECORD CONTAINS INVALID DATA

**Explanation**
An error was encountered editing a previous input record.

**System action**
This job terminates with a completion code of 12.

User response
Correct the control card and run the job again.

**ATY8252E**  VALID LSN= PARAMETER NOT SPECIFIED

**Explanation**
The IMS Administration Tool Message Log archive utility completed reading all control cards, but the required log stream name data was not specified.

**System action**
The job terminates with a return code of 12.

User response
Add a log stream name control card and run the job again.

**ATY8253E**  RECS= CANNOT BE SPECIFIED WITH DATE OR HOURS=

**Explanation**
The IMS Administration Tool Message Log archive utility encountered conflicting control cards. If specifying the number of records (RECS=) to offload, the DATE and HOURS= parameters are invalid.

**System action**
The job terminates with a completion code of 12.
User response
Correct the control cards and run the job again.

ATY8254E COLUMN 72 NOT BLANK

Explanation
The IMS Administration Tool Message Log archive utility does not support data in column 72.

System action
The job terminates with completion code of 12.

User response
Correct the control cards and run the job again.

ATY8255E LSN= PARAMETER SPECIFIED MORE THAN ONCE

Explanation
The LSN= control card was specified more than once in DDNAME SYSIN.

System action
The job terminates with completion code of 12.

User response
Correct the control cards and run the job again.

ATY8256E VALUE NOT SPECIFIED FOR LSN= PARM

Explanation
The LSN= parameter did not contain a log stream name.

System action
The job terminates with completion code of 12.

User response
Correct the control cards and run the job again.

ATY8257E HOURS= VALUE SPECIFIED MORE THAN ONCE

Explanation
The HOURS= control card was specified more than once in DDNAME SYSIN.

System action
The job terminates with completion code of 12.

User response
Correct the control cards and run the job again.

ATY8258E HOURS= MUST BE A 1 OR 2 CHARACTER NUMERIC VALUE

Explanation
A non-numeric value has been specified for the HOURS= parameter. Valid values are 01 – 24.

System action
The job terminates with completion code of 12.

User response
Correct the control cards and run the job again.

ATY8259E HOURS= MUST BE IN THE RANGE OF 1 - 24

Explanation
An invalid value was specified for the HOURS= parameter. Valid values are 01 – 24.

System action
The job terminates with a completion code of 12.

User response
Correct the control cards and run the job again.

ATY8260E RECS= ALREADY SPECIFIED

Explanation
The RECS= control card was specified more than once in DDNAME SYSIN.

System action
The job terminates with a completion code of 12.

User response
Correct the control cards and run the job again.

ATY8261E RECS= MUST BE A 1 - 6 CHARACTER NUMERIC VALUE

Explanation
A non-numeric value was specified in the RECS= parameter. Valid values are 1-999999.

System action
The job terminates with a completion code of 12.
User response
Correct the control cards and run the job again.

**ATY8262E**
RECS= MUST BE IN THE RANGE OF 1 - 999999

**Explanation**
An invalid value was specified in the RECS= parameter. Valid values are 1-999999.

**System action**
The job terminates with a completion code of 12.

User response
Correct the control cards and run the job again.

**ATY8263E**
"ALL" PARAMETER NOT VALID WITH RECS=, HOURS= OR DATE

**Explanation**
An invalid control card combination has been encountered. The ALL parameter is not valid with any other DUMP amounts.

**System action**
The job terminates with a completion code of 12.

User response
Correct the control cards and run the job again.

**ATY8264I**
DUMP TYPE NOT SPECIFIED, DEFAULT OF DUMP BY DATE USED

**Explanation**
None of the dump amount options were specified in the control cards read from DDNAME SYSIN. The default dump amount of DATE is used.

**System action**
Processing continues.

User response
None. This message is informational.

**ATY8265E**
LOGSTREAM NAME (LSN=) MORE THAN 26 BYTES

**Explanation**
The log stream name specified as the ATYLOGR= parameter in the IMS PROCLIB member ATYPARMS is longer than the maximum allowed. The maximum length of a log stream name is 26 bytes.

**System action**
Processing continues, but without writing log records.

User response
Correct the log stream name in the ATYLOGR= control card and restart the IMS Operations Manager.

**ATY8266E**
PARM CONFLICT - "MAX" NOT ALLOWED WHEN OTHER PARMS ARE SPECIFIED

**Explanation**
A control card conflict has been detected. When control card MAX is specified, no other control cards that define the amount of data to be archived are allowed.

**System action**
The archive utility terminates with a return code of 12.

User response
Correct the control card conflict and run the job again.

**ATY8267E**
FORMAT= ALREADY SPECIFIED

**Explanation**
The FORMAT= control statement was specified more than once in the SYSIN DD data set.

**System action**
The job terminates with a completion code of 12.

User response
Delete unnecessary FORMAT= statements and run the job again.

**ATY8268E**
FORMAT= VALUE MUST BE A OR C

**Explanation**
An incorrect value is specified to FORMAT=.

**System action**
The job terminates with a completion code of 12.

User response
Specify A or C to FORMAT= and run the job again.

**ATY8269E**
FILTER= ALREADY SPECIFIED
Explanation
The FILTER control statement is specified more than once in the SYSIN DD data set.

System action
The job terminates with a completion code of 12.

User response
Delete unnecessary FILTER control statements and run the job again.

ATY8270E FILTER= VALUE MUST BE A, C, OR X

Explanation
An incorrect value is specified for the FILTER keyword.

System action
The job terminates with a completion code of 12.

User response
Specify A, C, or X for the FILTER keyword and run the job again.

ATY8271E FORMAT= IS VALID WHEN FILTER=C IS SPECIFIED

Explanation
FORMAT= is available only when FILTER=C is specified.

System action
The job terminates with a completion code of 12.

User response
Correct the control statements and run the job again.

ATY8301I ATYREFRESH OR CCFREFRESH COMPLETE

Explanation
A /LOG ATYREFRESH or CCFREFRESH command was entered and the IMS Administration Tool message disposition table refresh completed successfully.

System action
Processing continues.

User response
None. This message is informational.

ATY8302E ATY LOGGER CONNECT FAILED, RC=rsn, RSN=rsn

Explanation
An error occurred attempting to connect the IMS Administration Tool Message Log log stream. The IXGCONN return and reason codes are contained in rc and rsn, respectively.

System action
Processing continues.

User response
Review the IXGCONN return and reason codes contained in rc and rsn, respectively. Correct the problem and restart IMS.

ATY8403I ATY LOGSTREAM DISCONNECTED

Explanation
IMS Administration Tool disconnected the log stream successfully.

System action
Processing continues.

User response
None. This message is informational.

ATY8404E ATYLOGC0 CALLED WITHOUT FUNCTION REQUEST

Explanation
An error occurred while connecting or disconnecting the log stream.

System action
Processing continues without writing log records.

User response
Ensure that the log stream name is specified correctly in the ATYLOGR= parameter in the IMS PROCLIB member ATYPARMS. If it is incorrect, correct it and restart the IMS Operations Manager.

If the log stream is correct and the problem persists, contact to IBM Software Support.

ATY8405W ATY LOGGING INACTIVE
Explanation
IMS Administration Tool cannot write log records because the log stream is inactive. The reason of the error is reported in the prior ATY error messages.

System action
Processing continues without writing log records.

User response
Follow the actions documented in the prior error messages. If the problem persists, contact IBM Software Support.

ATY8406I  ATY LOGSTREAM CONNECTED

Explanation
IMS Administration Tool message log initialization completed successfully.

System action
Processing continues.

User response
None. This message is informational.

ATY8407I  ATY WAITING FOR LOGSTREAM FORMATTING

Explanation
To complete log stream formatting, IMS Administration Tool is waiting for the "LOGGING STARTED" message to be written to the log stream.

System action
Processing continues.

User response
None. This message is informational.

ATY8408I  ATY WAITED n OF 240 SECONDS

Explanation
IMS Administration Tool is waiting for the completion of log stream formatting for n seconds of 240 seconds.

To complete log stream formatting, IMS Administration Tool is waiting for the "LOGGING STARTED" message to be written to the log stream.

System action
Processing continues.

User response
None. This message is informational.

ATY9999E  DECIMAL POINT MUST BE . OR ,
NON-NUMERIC IN LINES/PAGE
NON-NUMERIC IN MAX CHAR
FIELD
NON-NUMERIC IN MAX NUMERIC
FIELD
NON-NUMERIC IN MAX SELECT
LINES

Explanation
Detected syntax errors while processing SQL in the IMS SPUFI function.

System action
Skips the SQL statement and continues processing.

User response
Correct the syntax error in the SQL statement.
Messages (ATYA - ATYZ)

IMS Administration Tool issues messages that can help you understand the status of the infrastructure and help you resolve errors.

Message format

ATYA-ATYZ messages adhere to the following format:

\[ \text{ATY[E|J|T|Z]}n\text{nnx} \]

Where:

- \text{ATY[E|J|T]} indicates that the messages are related to IMS SPUFI.
  - Message numbers that begin with ATYE communicate information about the TSO attachment facility.
  - Message numbers that begin with ATYJ communicate information about the IMS SPUFI processing when the language environment of the application program that runs IMS SPUFI is Java.
  - Message numbers that begin with ATYT communicate information about the service controller.
- \text{ATYZ} indicates that the messages are related to IMS Administration Tool product configuration.
- \text{n\text{nn}} indicates the message identification number.
- \text{x} indicates the severity of the message:
  - \text{A} indicates that operator intervention is required before processing can continue.
  - \text{E} indicates that an error occurred, which might or might not require operator intervention.
  - \text{I} indicates that the message is informational only.
  - \text{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.

**Example:**

**ATYE601I**

\[ \text{SQLIMS STATEMENTS ASSUMED TO BE BETWEEN COLUMNS nn AND nn} \]

**Explanation:**

This message indicates which record columns in the input data set are scanned for SQLIMS statements.

For data sets of type COBOL, columns 8 through 72 are scanned.

For STANDARD data set types, if the LRECL is 79, then columns 1 through 71 are scanned. If the LRECL is 80, then columns 1 through 72 are scanned.

**System action:**
This message is written to the SPUFI output data set along with other summary messages.

**User response**
None. This message is informational.

**Explanation**
Running of an SQLIMS SELECT statement causes one or more rows of data to be displayed.
This message appears in the output data set following the returned data for a SELECT.
It gives a count (nn) for the number of rows displayed.

**System action:**
Input data set processing is completed, and this message is included in the ISPUFI output.

**User response**
None. This message is informational.

**Explanation**
An SQLIMS SELECT statement was run, but the specified column name, identified by nn in the message, was truncated.
This truncation occurred either because the data was longer than the remaining record width, or because the data was longer than the user-specified maximum field length.

**System action:**
Input data set processing is completed, and this message is included in the ISPUFI output.

**User response**
If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.
If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

**Explanation**
This message is written to the output data set after processing all SQLIMS statements in the current input data set.
The term nn is a count of the number of SQLIMS statements processed.

**System action:**
Input data set processing is completed, and this message is included in the ISPUFI output.
### User response
None. This message is informational.

#### ATYE621I
**NUMBER OF INPUT RECORDS READ IS nn**

**Explanation**
This message is written to the output data set after processing all SQLIMS statements in the current input data set.

The term *nn* is a count of the total number of records read from the input data set.

**System action:**
Input data set processing is completed, and this message is included in the ISPUFI output.

#### ATYE700W
**SQLIMS STATEMENTS SKIPPED DUE TO PREVIOUS ERROR.**

**Explanation:**
One or more errors were detected in SQLIMS statements.

**System action:**
Processing continues, but SQLIMS statements are ignored.

**User response:**
Follow User Response for the previous error message.

#### ATYE999W
**INVALID PACKED DECIMAL DATA IN 1 OR MORE COLUMNS**

**Explanation**
Detected packed decimal data with incorrect values in one or more columns. This data is in the records obtained by running a SQLIMS SELECT statement.

**System action**
Processing continues. The result of the SQLIMS statement is stored in the ISPUFI output. The packed decimal data is stored as is, without conversion.

**User response**
Review the columns that contain the packed decimal data in the database selected by the SQLIMS statement. If necessary, consider changing the data.

#### ATYJ001I
**USS FILE filename FOUND.**

**Explanation**
IMS Administration Tool found the indicated USS file in the USS file system.

**System action**
Processing continues.

**User response**
None. This message is informational.

#### ATYJ090E
**USS FILE filename NOT FOUND.**

**Explanation**
The indicated USS file, which is specified in the DFSJVMMS member of the IMS PROCLIB data set, is not found in the USS file system.
System action

Ends the processing for the indicated USS file.

User response

Ensure that the DFSJVMMS member of the IMS PROCLIB data set contains the correct file path for the USS file. Retry the operation.

**ATYJ200I**  NUMBER OF ROWS DISPLAYED IS *number*

Explanation

A SELECT statement was run, but the specified column name, identified by *number* in the message, was truncated.

This truncation occurred either because the column name was longer than the remaining record width, or because the name was longer than the user-specified maximum field length.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.

If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

**ATYJ203I**  DATA FOR COLUMN HEADER *column_name* FOR COLUMN NUMBER *number* WAS TRUNCATED.

Explanation

A SELECT statement was run, but data for the specified column name, identified by *number* in the message, was truncated.

This truncation occurred either because the data was longer than the remaining record width, or because the data was longer than the user-specified maximum field length.

System action

Input data set processing is completed, and this message is included in the ISPUFI output.

User response

If the truncation is caused by insufficient record width, use a larger LRECL for the output data set, or specify fewer data columns to be returned on the SELECT statement.

If the truncation is caused by the user-specified maximum field length setting, use a larger value for this setting.

**ATYJ204I**  MAXIMUM OUTPUT LINES FOR SELECT STATEMENT REACHED *number*
Explanation
The maximum number of output lines to be displayed for a SELECT statement was reached. Processing of the current SELECT statement is terminated.

The maximum number to display is specified by the ISPUFI user on the Set IMS SPUFI Options panel of the ISPF interface or the SQL Options panel of the web interface.

This message appears in the ISPUFI output file.

System action
Processing of subsequent SQL statements in the input file continues.

User response
If the number of lines displayed is insufficient, you can increase the maximum number of lines to be displayed for SELECT statements on the Set IMS SPUFI Options panel of the ISPF interface or the SQL options panel of the web interface and re-run the SELECT statement.

ATYJ210I STATEMENT EXECUTION WAS SUCCESSFUL.

Explanation
This message is written to the output data set following the successful execution of an SQL statement from the input data set.

System action
Input data set processing is completed, and this message is included in the ISPUFI output.

User response
None. This message is informational.

ATYJ211W STATEMENT EXECUTION FAILED.

Explanation
This message is written to the output data set following the failed execution of an SQL statement from the input data set.

System action
Input data set processing is completed, and this message is included in the ISPUFI output.

User response
Follow User Response for the previous error message.

ATYJ212W SQL STATEMENTS SKIPPED DUE TO PREVIOUS ERROR.

Explanation
One or more errors were detected in SQL statements.

System action
Processing continues, but SQL statements are ignored.

User response
Follow User Response for the previous error message.

ATYJ213W USER TYPE CONVERTER FOR COLUMN HEADER column_name FOR COLUMN NUMBER number WAS NOT FOUND. description

Explanation
A SELECT statement was run, but the specified column name, identified by number in the message, was filled with blank characters because the specified user type converter was not found. description provides information about the user type converter.

System action
Input data set processing is completed, and this message is included in the ISPUFI output.

User response
Use the information provided in this message (description) and correct the error. After ensuring that the IMS system is configured correctly to use the user type converter in the JBP region, retry the operation.

ATYJ220I NUMBER OF SQL STATEMENTS PROCESSED IS number

Explanation
This message is written to the output data set after processing all SQL statements in the current input data set.

The term number is a count of the number of SQL statements processed.

System action
Input data set processing is completed, and this message is included in the ISPUFI output.

User response
None. This message is informational.
<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATYJ221I</td>
<td>NUMBER OF INPUT RECORDS READ IS number</td>
<td>This message is written to the output data set after processing all SQL statements in the current input data set. The term number is a count of the total number of records read from the input data set.</td>
<td>Input data set processing is completed, and this message is included in the ISPUFI output.</td>
<td>None. This message is informational.</td>
</tr>
<tr>
<td>ATYJ222I</td>
<td>NUMBER OF OUTPUT RECORDS WRITTEN IS number</td>
<td>This message is written to the output data set after processing all SQL statements in the current input data set. The term number is a count of the total number of records written to the input data set.</td>
<td>Input data set processing is completed, and this message is included in the ISPUFI output.</td>
<td>None. This message is informational.</td>
</tr>
<tr>
<td>ATYJ290E</td>
<td>AN EXCEPTION OCCURRED. description</td>
<td>An exception occurred while executing the Java program. description provides details about the exception.</td>
<td>Stops the SQL processing and ignores all subsequent SQL statements.</td>
<td>Correct the symbol and retry the operation.</td>
</tr>
<tr>
<td>ATYJ291E</td>
<td>COBOL SQL STATEMENT statement IS NOT SUPPORTED.</td>
<td>The indicated SQL statement, which is for COBOL, is not supported.</td>
<td>Stops the SQL processing and ignores all subsequent SQL statements.</td>
<td>Remove the SQL statements for COBOL.</td>
</tr>
<tr>
<td>ATYJ291E</td>
<td>DDL SQL STATEMENT statement IS NOT SUPPORTED.</td>
<td>The indicated SQL statement, which is for DDL, is not supported.</td>
<td>Stops the SQL processing and ignores all subsequent SQL statements.</td>
<td>Remove the SQL statements for DDL.</td>
</tr>
<tr>
<td>ATYJ293E</td>
<td>ILLEGAL SYMBOL symbol WAS USED.</td>
<td>An illegal symbol (symbol) is detected in the SQL statements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATYJ294E</td>
<td>FAILED TO RUN JVM IN JBP REGION.</td>
<td>To execute Java programs in the JBP region, JVM (Java Virtual Machine) must be started. JVM failed to start in the JBP region.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
System action
Processing terminates without running the Java program.

User response
Ensure that the IMS system is configured correctly to start the JBP region and that the following IMS Administration Tool resources are configured correctly. For more information, see “Setting up a Java environment for IMS SPUFI JBP” on page 40.

• The Jar file provided by IMS Administration Tool is copied to the correct location (ATYJCOPY sample JCL).
• Required variables, such as ATYJPRE1 and ATYJPREx, are registered to the IMS Tools Knowledge Base repository (ATYJPREF sample JCL).

After ensuring that all the resources are configured correctly, retry the operation.

ATYT408I SQLIMSCODE = -xxx, explanation

Explanation
This message contains an SQLIMS return code and a brief explanation, with text inserted from the SQLIMSSERRM field.

The SQLIMS return code is negative, indicating that an error has occurred.

For more information about this SQLIMS return code, see IMS Messages and Codes (Volume 4), "IMS Component Codes".

System programmer response
Determine the cause for the SQLIMS error by using information about that specific SQLIMSCODE.

Correct the error and rerun the application program or SQLIMS statement.

Problem determination
Collect the following diagnostic items:

• Console output from the system on which the job was run, and a listing of the SYSLOG data set for the period of time spanning the failure
• Dynamic dump, taken to SYS1.DUMPxx data set
• Listing of SYS1.LOGREC data set, obtained by running IFCEREP1
• Listing of the results produced by the SQLIMS statements
• Source listing of the failing application program

Explanation:
The name of the procedure detecting the error is provided in the SQLIMSSERRP.

System programmer response
(The SQLIMS procedure detecting the error might be of help in diagnosing an error or warning).

Correct the error if there is one noted in other messages. Rerun the program or SQLIMS statement.

ATYT416I NUMBER OF ROWS UPDATED/INSERTED/DELETED nn

Explanation:
Number of rows inserted, updated, or deleted following an INSERT, UPDATE, or DELETE statement.

System action:
Processing continues.

ATYT417I SQLIMSWARNn-ndef SQLIMS WARNINGS

Explanation
At least one of the 11 warning values is not the expected value (a blank).

A non-blank value in one of the 11 warning fields has the following meaning:

SQLWARN0 Any other warning code is set.
SQLWARN1 String truncation.
SQLWARN2 Reserved.
SQLWARN3 The number of result columns is larger than the number of host variables.
SQLWARN4 No WHERE clause on UPDATE or DELETE.
SQLWARN5 Not a valid SQL statement in IMS.
SQLWARN6 A field is not initialized with the proper format for the INSERT statement because the field overlays with another field that is of a different type.

ZONEDDECIMAL and PACKEDDECIMAL fields are initialized during the processing of an INSERT statement.

If the field is overlaid by another field and the field cannot be initialized, W is set for the statement during the EXECUTE call.

SQLWARN7 Reserved.
SQLWARN8
Reserved.

SQLWARN9
Reserved.

SQLWARNA
Reserved.

**User response**
The SQLIMS warning information might be of help in diagnosing an error or in indicating the results of successful execution.

If this warning should occur, correct the error and rerun the program or SQLIMS statement.

See the topic “SQL communication area (SQLIMSCA)” in *IMS Application Programming APIs*.

---

**Explanation**
The SQLIMSCA is a return code that indicates the outcome of the most recently executed SQLIMS statement.

The running of every SQLIMS statement sets SQLIMSCA to a five-digit code in the range of 00000 to 65535.

This has no effect on the existing use of any other field in the SQLIMSCA.

**User response:**
The reason the build phase failed is identified by the reason code, which is described in *IMS Messages and Codes* (Volume 4), "IMS Component Codes - SQL Codes".

---

**Explanation**
SPF VDEFINE failed at initialization. RC = &atyrc.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

---

**Explanation**
DAI SSI environment is not active.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

---

**Explanation**
Tools Base modules cannot be loaded. RC = &atyrc.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

---

**Explanation**
DAI XCF group with AII prefix is not found.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.
**ATYZ006E**  
Free Query XCF group storage failed. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**  
Failed to free the Query XCF group storage.

**System action**  
The process terminates.

**User response**  
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ007E**  
DAI XCF group &atyxcf. is not active. Please select one XCF from the XCF Group list.

**Explanation**  
The DAI XCF group is not active.

**System action**  
The process terminates.

**User response**  
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ008E**  
Join XCF group failed. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**  
Failed to join the XCF group.

**System action**  
The process terminates.

**User response**  
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ009E**  
Find DAI TAS XCF member failed. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**  
Failed to find the DAI TAS XCF member.

**ATYZ010E**  
Tools Access Server (TAS) is not up.

**Explanation**  
The Tools Access Server (TAS) is not started.

**System action**  
The process terminates.

**User response**  
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ011E**  
Free Storage Procedure "QRYTAS" failed. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**  
Free Storage Procedure "QRYTAS" failed.

**System action**  
The process terminates.

**User response**  
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ013E**  
Receive response failed. GetAWE failed. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**  

**System action**  
The process terminates.

**User response**  
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ014E**  
Receive response failed. Unexpected AWE function type.
**RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN. DataH1 = &ATYDataH1.**

**Explanation**
Receive response failed. Unexpected AWE function type.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ015E** Invalid response received. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**
Invalid response received.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ016E** Message verification failed. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**
Message verification failed.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ017E** Response from XCF group exit received. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**
Received a response from the XCF group exit.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ018E** Tools Access Server (TAS) is not responding. Check console log for TAS status. Exit the application and try again later.

**Explanation**
The Tools Access Server (TAS) is not responding.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ019E** DAI Server detected an error. RC = &ATYRC. SSIRC = &ATYSSIRC. SSIRN = &ATYSSIRN.

**Explanation**
The DAI server detected an error.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ020E** &usrtxt01

**Explanation**
Self-explanatory.

**System action**
The process terminates.

**User response**
If the cause of the error cannot be determined, contact IBM Software Support.

**ATYZ023E** Default ITKB name is not found. Check with System Administrator.
Explanation
The IMS Tools Knowledge Base server is not configured correctly for IMS Administration Tool.

System action
The process terminates.

User response
Ensure that the expected IMS Tools Knowledge Base repository server is configured correctly and active.

**ATYZ024E** Can not connect to DAI server. Check DAI server availability.

Explanation
The DAI server is not configured correctly for IMS Administration Tool.

System action
The process terminates.

User response
Ensure that the expected DAI server is configured correctly and active.

**ATYZ025E** Unauthorized to access IMS Administration Tool. Check with System Administrator.

Explanation
Error in the RACROUTE call issued by IMS Administration Tool. The user attempt to use the IMS commands function has been denied due to the access authority reason.

System action
IMS Administration Tool terminates.

User response
Ensure that the access authority is granted to the user.

**ATYZ026E** Tools Base product version is not V1.6.0 or higher. Check with System Administrator.

Explanation
IMS Tools Base is not at the required maintenance level.

System action
IMS Administration Tool terminates.

User response
Ensure that the IMS Tools Base product version is updated to the recent version.

**ATYZ028E** Product High Level Qualifier not specified

Explanation
Product high-level qualifier is not specified.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct product high-level qualifier is specified.

**ATYZ029E** Tools Base DAI (SAIILINK) data set name is not specified

Explanation
IMS Tools Base DAI (SAIILINK) data set name is not specified.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct IMS Tools Base DAI (SAIILINK) data set name is specified.

**ATYZ032E** Exec data set &ATYEXEC not found

Explanation
EXEC library data set name (SATYCEXE) is not found.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct EXEC library data set name (SATYCEXE) is specified.

**ATYZ034E** Loadlib data set &ATYLLIB not found

Explanation
LOADLIB library data set name (SATYLOAD) is not found.
ATYZ035E  ISPF message data set &ATYMLIB not found

Explanation
ISPMLIB library data set name (SATYMENU) is not found.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct ISPMLIB library data set name (SATYMENU) is specified.

ATYZ036E  ISPF panel data set &ATYPLIB not found

Explanation
ISPPLIB library data set name (SATYPENU) is not found.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct ISPPLIB library data set name (SATYPENU) is specified.

ATYZ038E  ISPF table data set &ATYTLIB not found

Explanation
ISPTLIB library data set name (SATYTENU) is not found.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct ISPTLIB library data set name (SATYTENU) is specified.

ATYZ039E  Loadlib data set &TEMPLLIB not found

Explanation
IMS Tools Base DAI (SAIILINK) data set name is not specified.

System action
IMS Administration Tool terminates.

User response
Ensure that the correct IMS Tools Base DAI (SAIILINK) data set name is specified.

ATYZ040E  IMS Administration Tool library version is inconsistent with ISPF panel version. Check with System Administrator. Current Administration Tool library data sets are "&ATYLLIB".

Explanation
The version of IMS Administration Tool library is inconsistent with the version of the ISPF panels.

System action
The process terminates.

User response
Ensure that the IMS Administration Tool product version is updated to the recent version.

ATYZ041E  Administration Tool is not registered in product registration. Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in Admin Tool SATYSAMP for product registration.

Explanation
IMS Administration Tool is not registered in product registration.

System action
The process terminates.

User response
Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in the IMS Administration Tool sample library (SATYSAMP) for product registration.
in Admin Tool SATYSAMP for product registration.

**Explanation**
The load library data set (SATYLOAD) of IMS Administration Tool does not exist.

**System action**
The process terminates.

**User response**
Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in the IMS Administration Tool sample library (SATYSAMP) for product registration.

**ATYZ043E**
Some crucial Admin Tool members are not found in the Admin Tool load library (SATYLOAD). The SATYLOAD data set might not be correct. Review the IMS Tools SETUP CUSTJCL or the ATYITKB member in Admin Tool SATYSAMP for product registration.

**Explanation**
Some crucial members of IMS Administration Tool are not found in the IMS Administration Tool load library (SATYLOAD).

**System action**
The process continues.

**User response**
Under DNAME Variable Management in Update Product Registry, ensure that the data set specified for the SYSLOAD variable is correct.

---

**Abend codes**

This reference section provides detailed information about IMS Administration Tool abend codes. For each abend code, the following information is provided where applicable:

**Explanation:**
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any)

**System Action:**
The System Action section explains what the system does next

**User Response:**
The User Response section describes whether a response is necessary, what the appropriate response is, and how the response affects the system or program

**1000**

**Explanation**
An internal ATY error occurred.

**System action**
The job step terminates abnormally with a U1000 completion code.

**User response**
Contact IBM Software Support.

**2000**

**Explanation**
An internal ATY error occurred.
System action
The job step terminates abnormally with a U2000 completion code.

User response
Contact IBM Software Support.

4044

Explanation
An error occurred attempting to register to the IMS SCI address space.

System action
ATY processing terminates with a U4044 abend.

User response
Ensure that the SCI address space is available, and the SDFSERESL is included in the ATY job, or ISPF task.

4070

Explanation
An unexpected condition occurred for which the IMS Administration Tool options in effect requested an abnormal termination.
This abend code is used when the user-defined abend has not been specified, or is specified as 0000.

System action
The job step terminates abnormally with a U4070 completion code.

User response
Find the preceding message that describes the reason for the abend, correct the condition, and run the command again.

4072

Explanation
ATYAPPC0 received an unexpected return code after an ATBGETC call. Message ATY4072E precedes the abend with the return code from the ATBGETC call.

System action
The job step terminates abnormally with a U4072 completion code.

User response
Find the description of the non-zero return code in the manual *Writing Transaction Programs for APPC*, correct the error, and run the command again.

4073

Explanation
ATYAPPC0 received an unexpected return code after an ATBSEND call. Message ATY4073E precedes the abend with the return code from the ATBSEND call.

System action
The job step terminates abnormally with a U4073 completion code.

User response
Find the description of the non-zero return code in the manual *Writing Transaction Programs for APPC*, correct the error, and run the command again.

4075

Explanation
ATYAPPC0 received an unexpected return code after an IMS INQY call. R14 and R15 contain the AICREASN and AIBRETRN codes, respectively.

System action
The job step terminates abnormally with a U4075 completion code.

User response
Find the description of the non-zero return and reason codes in *IMS Messages and Codes*, correct the problem, and run the command again.
**4080**

**Explanation**
An unexpected error occurred during DBRC processing.

**System action**
The job step terminates abnormally with a U4080.

**User response**
As a workaround, turn off all DBRC options in effect, run the command again, and contact IBM Software Support.

---

**4081**

**Explanation**
An error occurred while reading the DBRC listing. An unrecognized value was found in the number of authorized subsystems field.

**System action**
The job step terminates abnormally with a U4081.

**User response**
As a workaround, turn off all DBRC options in effect, run the command again, and contact IBM Software Support.

---

**4082**

**Explanation**
An unexpected error occurred while trying to call the APPC/MVS error extract service, ATBEES3.

**System action**
The job step terminates abnormally with a U4082.

**User response**
Take appropriate corrective action, and run the command again. If the problem persists, contact IBM Software Support.

---

**4083**

**Explanation**
An internal IMS Administration Tool error occurred.

**System action**
The job step terminates abnormally with a U4083 completion code.

**User response**
Contact IBM Software Support.

---

**4095**

**Explanation**
An internal IMS Administration Tool error occurred.

**System action**
The job step terminates abnormally with a U4095 completion code.

**User response**
Contact IBM Software Support.
Chapter 33. Wildcard support

IMS Administration Tool provides wildcard support for type-1 commands in addition to the support already provided by IMS.

Topics:
- “Wildcard support overview” on page 317
- “Wildcard support for /DISPLAY commands” on page 317
- “Wildcard support for Non-/DISPLAY commands” on page 318
- “Commands with wildcard support” on page 318

Wildcard support overview

In addition to the wildcard support offered by IMS, IMS Administration Tool supports wildcards on database, AREA, PROG, and additional TRAN commands.

Wildcards are supported when the command driver runs as a batch (IMS BMP, IMS DL/I batch or standard z/OS batch), ISPF dialog, or callable interface.

IMS Administration Tool uses the same characters for wildcards as IMS uses for its generic commands:
- An asterisk is used to represent 0 to one or more characters.
- A percent sign is used to represent a single character.

Note: Because IMS supports wildcards for most commands with the TRANSACTION keyword, IMS Administration Tool passes those commands directly to IMS for processing. The only time IMS Administration Tool performs any special processing of commands with the TRANSACTION keyword is when a wildcard is used on an IMS /ASSIGN command.

The first time IMS Administration Tool command driver encounters a wildcard in one of its supported commands, the command driver builds a resource list by issuing a /DIS xx ALL command to the first IMS system in the IMS Administration Tool group. The command driver then uses the resource list to determine which resources match the wildcard pattern and issues the original command for each name that matches the pattern.

To improve performance, the command driver places as many resource names on each command as can fit.

Wildcard support for /DISPLAY commands

When a /DISPLAY AREA/DB/PROG command contains a wildcard, IMS Administration Tool issues a /DISPLAY AREA/DB/PROG ALL command to IMS.

IMS Administration Tool compares the returned names with the wildcard mask and displays only the matching names.

If the command is being issued to an IMS Administration Tool group, the /DISPLAY x ALL command is sent to each member of the group.
Wildcard support for Non-/DISPLAY commands

When wildcards are detected in non-/DISPLAY commands, IMS Administration Tool builds a table of resource names (for example, AREA/DB/PROG/TRAN) by issuing a /DISPLAY AREA/DB/PROG/TRAN ALL command.

IMS Administration Tool then uses the table of names to build and execute the original command. IMS Administration Tool populates the command with as many matching names as can fit, and issues multiple commands if required.

If the command is being issued to an IMS Administration Tool group, the table is built by issuing the /DISPLAY x ALL command to the first IMS in the group. In order to get the proper results when using wildcards, IMS Administration Tool expects all members of a IMS Administration Tool group to contain identical resource definitions.

When the command driver runs as a batch job (IMS BMP, IMS D/LI batch, or standard z/OS batch), IMS Administration Tool issues the /DISPLAY x ALL command only once. The table is retained for future commands that might also contain wildcards.

When the command driver runs from ISPF or the callable interface, it is possible that the IMS Administration Tool group might change. IMS Administration Tool still creates the table of names when processing the first command with a wildcard, and still retains the table for future use.

However, if IMS Administration Tool detects a wildcard command is issued using a different IMS Administration Tool group, the original table is freed and IMS Administration Tool issues the /DISPLAY x ALL command to the first IMS in the new IMS Administration Tool group.

Example:
1. IMS Administration Tool group contains:
   IMS1, IMS2, and IMS3
2. Command entered:
   /STA PROG DFS*
3. IMS Administration Tool will:
   /DIS PROG ALL command on IMS1
4. Issue to IMS1, IMS2, and IMS3 (include all names that matched the pattern):
   /STA PROG DFSIVPA DFSIVPB DFSIVPC DFSIVP0 DFSIVP1 ...

IMS Administration Tool issues multiple commands if more names match the pattern than fit on a single command.

Commands with wildcard support

IMS Administration Tool provides wildcard support for the following commands:

- /ASS CPRI xx TRAN yy
- /ASS LMCT xx TRAN yy
- /ASS LPRI xx TRAN yy
- /ASS NPRI xx TRAN yy
- /ASS PARLIM xx TRAN yy
- /ASS PLMCT xx TRAN yy
- /ASS SEGNO xx TRAN yy
- /ASS SEGSIZE xx TRAN yy
- /ASS TRAN yy CLASS xx
- /DIS AREA
- /DIS DATABASE
- /DIS PROGRAM
- /DBD AREA
- /DBD DATABASE
- /DBR AREA
- /DBR DB
- /STA AREA
- /STA DATABASE
- /STA PROGRAM
- /STO AREA
- /STO DATABASE
- /STO PROGRAM
Chapter 34. Gathering diagnostic information

Before you report a problem with IMS Administration Tool to IBM Software Support, you need to gather the appropriate diagnostic information.

For each IMS Administration Tool problem, be prepared to provide the following information:

- A clear description of the problem and the steps that are required to re-create the problem
- All messages that were issued as a result of the problem
- Product release number and the number of the last program temporary fix (PTF) that was installed
- The version of IMS that you are using and the type and version of the operating system that you are using
- A copy of the userid.ADFYTRACE trace data set captured at the time of the failure

Problem Type 1: IMS Administration Tool appears to have incorrectly processed

Provide the following types of data:

- The entire job output including JCL, control cards, allocation messaging, and reports
- Output from any diagnostic report (if it is requested)
- Any other material that indicates a discrepancy between results that were expected and the results that were created
- An IDCAMS print of the ATY OPTIONS data set

Problem Type 2: IMS Administration Tool abends

Provide the following types of data:

- The entire failing job output, including SYSUDUMP output, JCL, control cards, allocation messaging, and reports
- Output from any diagnostic report (if it is requested)
- A console hardcopy of events that might indicate the reason for the product failure
- Screen prints or line commands that demonstrate the product failure
- Special DUMP or TRACE information might be requested in some instances
- An IDCAMS print of the ATY OPTIONS data set

Additional information:

For online abends, provide the following information

- A screen shot of the panel that you were using when the abend occurred
- The job log from the TSO session that encountered the abend
- The job log from the server
- A description of the task that you were doing before the abend occurred

For errors in batch processing, provide the following information

- The complete job log
- Print output
- Contents of the any data sets that were used during the processing
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