

IBM Output Manager for z/OS



# Planning and Customization Guide

*Version 1 Release 1*





IBM Output Manager for z/OS



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*Version 1 Release 1*

**Note!**

Before using this information and the product it supports, be sure to read the general information under notices.

**Fourth Edition (December 2003)**

This edition applies to Version 1, Release 1 of IBM® Output Manager for z/OS (product number 5655-J20) and to all subsequent releases and modifications until otherwise indicated in new editions.

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## Preface

This book contains planning and customization information for IBM Output Manager for z/OS. It provides detailed information on what your site needs to consider when planning for the use of IBM Output Manager for z/OS. This book also provides the installation overview and verification information to facilitate IBM Output Manager implementation at your site. For step-by-step installation instructions refer to the *IBM Output Manager for z/OS Program Directory* you received from IBM as part of the product package.

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## Who should read this book

The *IBM Output Manager for z/OS Planning and Customization Guide* is intended for those personnel at your site who are involved with the planning for and implementation of output management. The personnel involved in output management often includes report administrators, system administrators, system security administrators, database administrators, print room managers and operators, and JES administrators.

The authors of this book assume that most readers are data processing professionals familiar with z/OS, OS/390, RACF, DB2, and system administration.

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## Conventions and terminology used in this book

In this book, IBM Output Manager for z/OS is referred to as "Output Manager" or "OM" where the context makes the meaning clear.

Other conventions include:

- Monospaced font - Identifies example code.
- **Bold font** - Identifies fields, commands, and values on product panels as well as labels that distinguish various types of information (such as Note).

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## Where to find more information

IBM provides a complete set of information to help you plan for, install, administer, and use Output Manager. Some of the information is included in your product package. A complete set of publications is also available on the Web.

Title	Order Number
<i>IBM Output Manager for z/OS Program Directory</i>	GI10-8502-01
<i>IBM Output Manager for z/OS Planning and Customization Guide</i>	GC18-7281-01
<i>IBM Output Manager for z/OS User's Guide</i>	SC18-7251-01



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## Chapter 1. About IBM Output Manager

IBM Output Manager for z/OS automates online report distribution and enables you to capture and manage historical report data and attributes. By enabling you to effectively capture, manage, view, and deliver reports and documents throughout your organization, IBM Output Manager helps you to transform your organization's data into customized, accessible formats, thus enhancing your ability to respond to current business trends and to make effective strategic decisions.

With IBM Output Manager, you can specify report attributes, collect report data, split system output into individual reports, perform both online and batch print jobs, and deliver report data to end users. IBM Output Manager:

- Streamlines the online report distribution process.
- Helps users track report attributes and distribution information.
- Enables business users to view data pertinent to their individual needs.
- Leverages standard OS/390 data management facilities for capturing report data.
- Maintains historical information about production reports.
- Reduces costs associated with report distribution.

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### Output Manager features and components

The following diagrams summarize IBM Output Manager's components and the business workflow into which IBM Output Manager integrates.

Figure 1. How IBM Output Manager fits into business flow

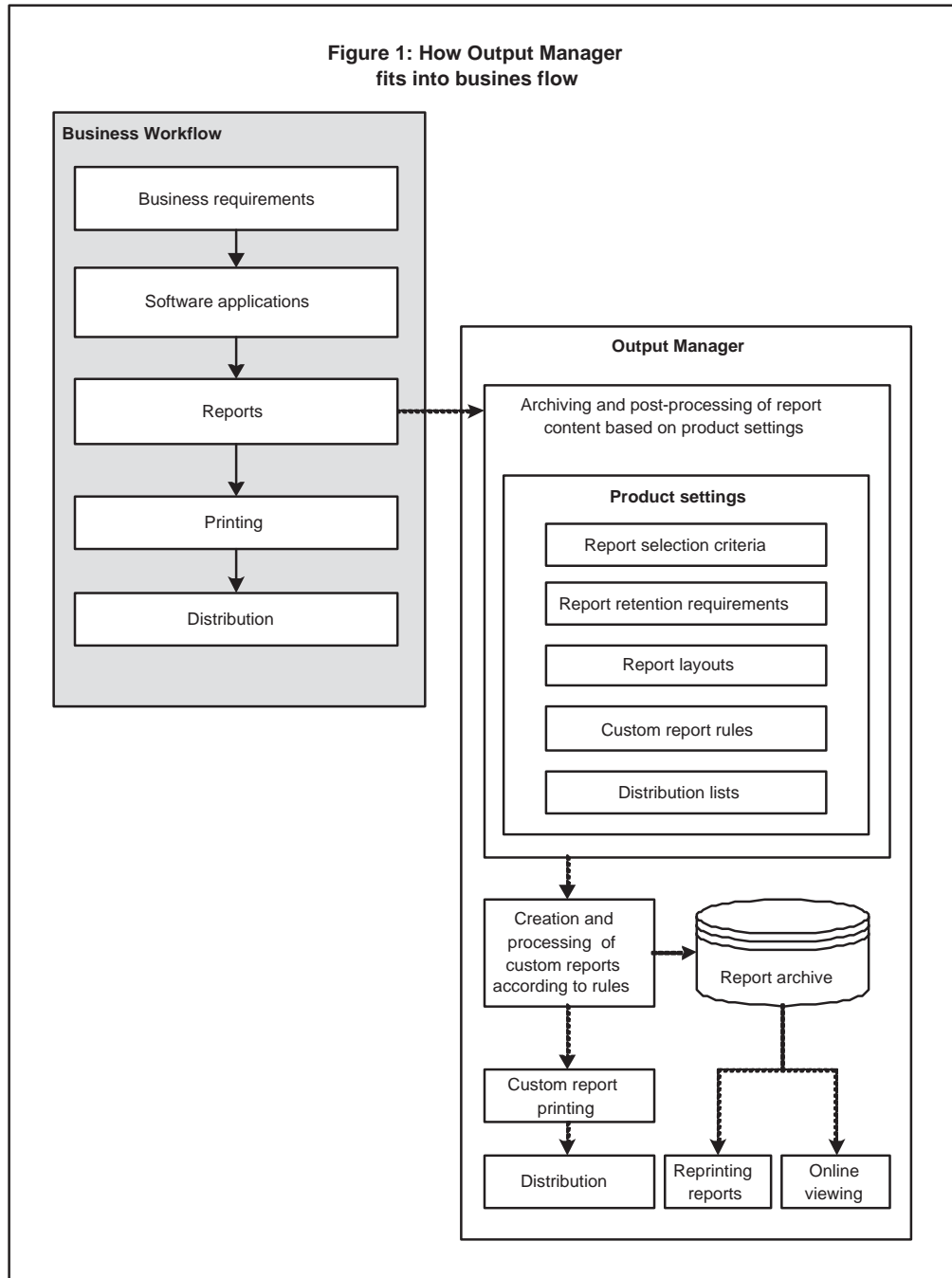


Figure 2. IBM Output Manager's report selection process

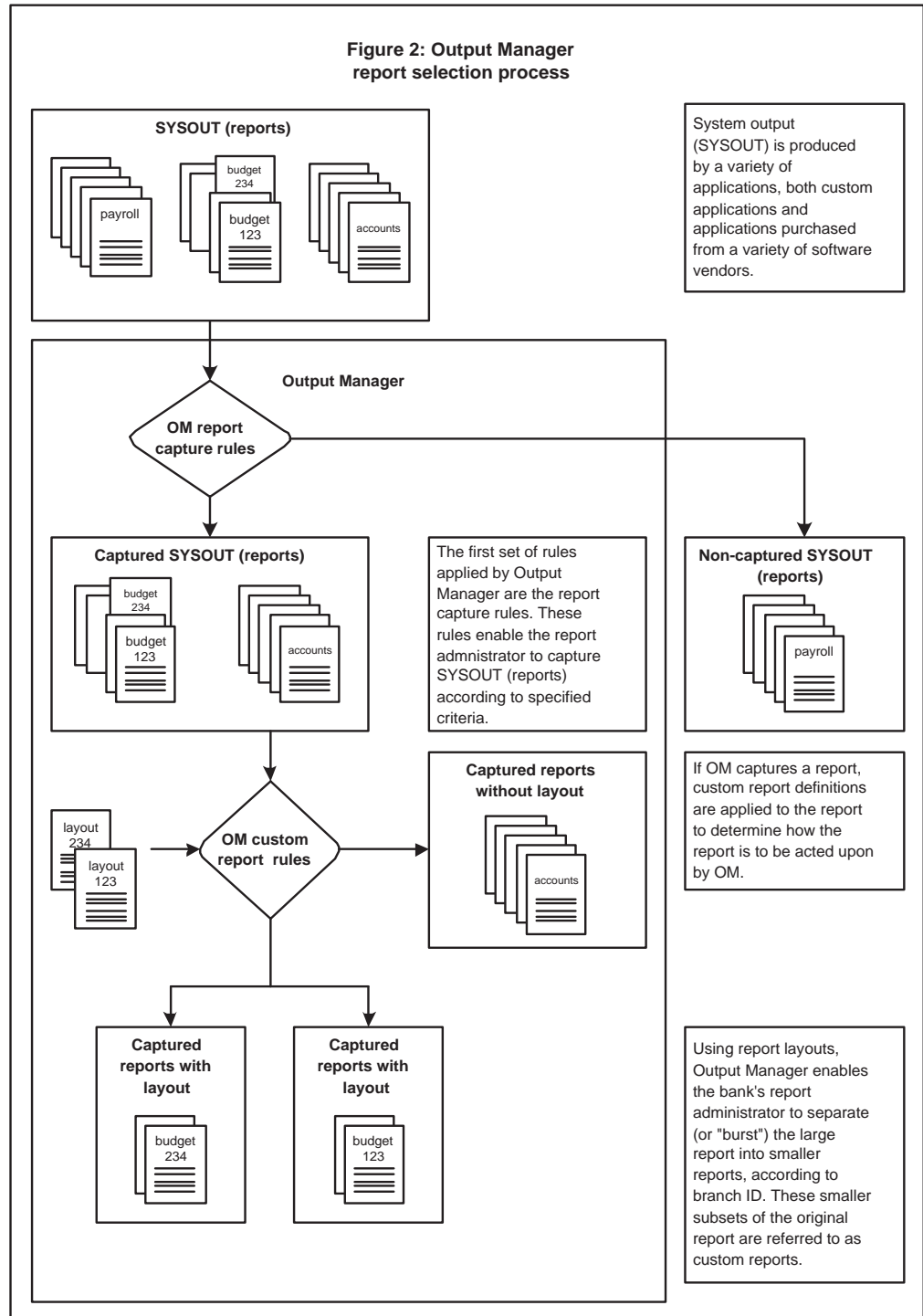
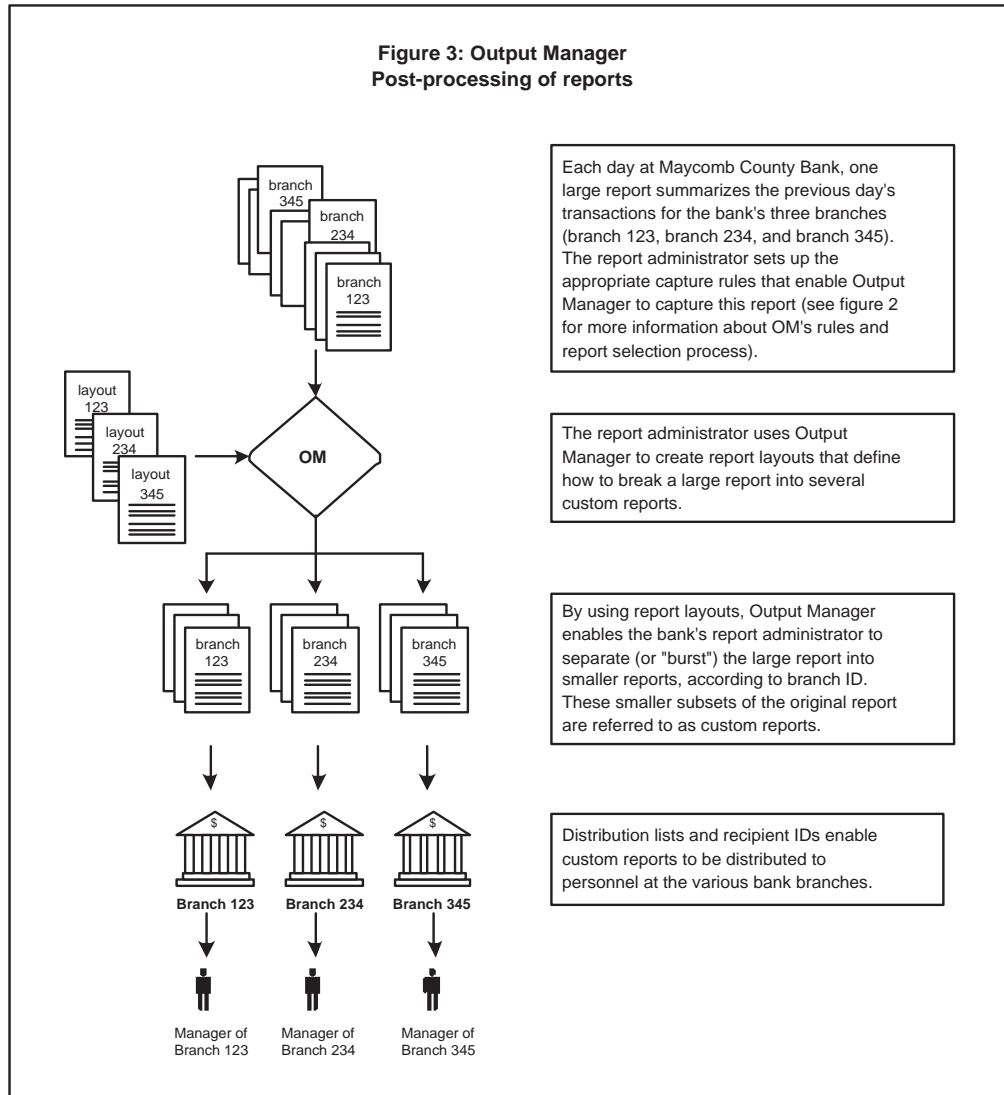


Figure 3. IBM Output Manager's post-processing of reports



## Online viewing

IBM Output Manager's ISPF dialog interface enables you to view captured reports and to quickly and directly access the system output that is pertinent to your individual needs.

## Capturing system output data

By collecting historic SYSOUT data, your enterprise can efficiently trace business trends and chart future strategic direction. IBM Output Manager enables you to capture and manage report data and attributes. IBM Output Manager captures report data in sequential files and uses DB2 to create indexes of the reports that have been captured.

## Report distribution

Efficient, accurate distribution of reports ensures the smooth operation of your print facilities and reduces production costs. IBM Output Manager's report distribution



capabilities enable you to efficiently deliver reliable information to end users, thus enabling them to leverage information and make timely business decisions. IBM Output Manager allows you to split your SYSOUT data into individual reports and deliver them to the intended report recipients.



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## Chapter 2. Preparing for Output Manager

This chapter contains recommendations that you should consider as you prepare your organization for the IBM Output Manager environment and perform a pilot roll-out of the system. Planning for Output Manager implementation requires that you have a clear understanding of your site's data set naming and storage conventions, how the IBM Output Manager system will be deployed and used, who will use the IBM Output Manager system, and how Output Manager report data and attributes will be archived and managed.

As you begin the planning process, you must identify the appropriate people at your site who will help you plan and setup the Output Manager system. These people often include your site's system administrator, security administrator, database administrator, and print room manager/operator.

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### Requirements

This section provides information about the hardware and software requirements necessary to implement Output Manager at your site. This information will help you assess how the Output Manager system might impact your current storage capacity and system performance and will help you optimize performance and identify potential system improvements that might be necessary to best use Output Manager in your environment.

#### Hardware requirements

The hardware you will need to run the Output Manager system depends on the volume of data that you plan to maintain using Output Manager, your site's backup and recovery practices, and the performance levels your system is expected to maintain.

#### Software requirements

The following software applications are required to implement IBM Output Manager:

- Any supported release of z/OS or OS/390.
- DB2 for OS/390 version 6 or higher.
- TSO/ISPF

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### Administrative roles and responsibilities

Output Manager report administrators are responsible for the implementation and management of the Output Manager system. The Output Manager system includes hardware, application and system software, reports, administration personnel, and users. The table below describes the various personnel with whom the report administrator will most likely have to collaborate in order to ensure the successful implementation of the Output Manager system.

*Table 1. Administrative roles and responsibilities*

<b>Role</b>	<b>Description</b>
Report administrator	In the planning process, the report administrator plays the central role in the report generation, archival, and management process. The report administrator interacts with all other roles to ensure that the appropriate considerations and actions are taken during the various implementation phases.
System administrator	The system administrator is responsible for the allocation and use of OS/390 system resources. In the planning process, the system administrator is a key player in managing archive reports. The system administrator provides recommendations regarding well-formed data set name construction, adherence to data set retention policies, and data set attribute specification.
Security administrator	The security administrator is responsible for OS/390 system security. In the planning process, the security administrator is responsible for working with the report administrator to assess how site security conventions impact the Output Manager-generated data sets.
Database administrator	The database administrator is responsible for the administration of DB2 objects, processes, and applications. In the planning process, the database administrator manages the various DB2 tables required by Output Manager.
Print room manager/operator	The print room manager/operator is responsible for managing the printed output from Output Manager. The print room manager/operator must be aware of how the Output Manager system is to be implemented.

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## Collecting DASD space requirements

Below is a list of questions to consider when evaluating the amount of DASD that your Output Manager implementation will require.

- What volume of input will Output Manager be expected to process?
- How large are the reports that Output Manager will be expected to produce and manage (in pages and bytes)?
- How many reports? How many versions of reports?

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## Data set naming and storage considerations

Data set naming and storage considerations include planning for:

- Data set names
- Data set attributes
- Data set retention periods

### Data set name construction

The report administrator should contact the security administrator and system administrator to discuss and ensure the construction of well-formed data set names for the archive report data sets that will be produced by Output Manager. All archive

report data sets must adhere to your site's requirements and conventions governing data set naming.

## Data set attributes specification

The report administrator should contact the system administrator to discuss data set attribute assignment and what is most appropriate given the site's conventions, capacity, and resources. Sometimes, depending on the site's data set naming conventions, the data set name will give the storage administrator enough information to determine the attribute assignment for the data sets.

## Data set retention and retention enforcement

The report administrator must contact the system administrator and others responsible for data set retention and enforcement of data set retention. Retention periods for data sets are definable in the JCL but further discussion and policy must be in place to ensure that the data sets that should be kept are, in fact, kept. When data sets are no longer being used but must be retained, there must be appropriate mechanisms in place to ensure that they are rolled-off to tape for long-term storage.

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## Deployment considerations

Deployment considerations include planning for and evaluating the storage and space that will be required by Output Manager as well as how Output Manager deployment will be managed in the DB2 environment. Additionally, your site's performance and capacity will influence the deployment of Output Manager. These factors are unique to each site and must be carefully considered before Output Manager is implemented.

## Storage and space considerations

Because the data sets generated by Output Manager consume storage space over time, the site must assess how much storage will be necessary to accommodate their expected volume of archived data and the retention periods for which archived data is kept. Assess whether or not additional DASD must be purchased, for example.

## DB2 considerations

There are two basic considerations to be made concerning the DB2 environment:

- DB2 objects
- DB2 backup and recovery

### DB2 objects

IBM Output Manager requires the following DB2 objects:

- A database
- One or more table spaces
- Several tables

The report administrator must contact the site database administrator to obtain the Output Manager names and SQL IDs for these objects. Fourteen DB2 tables are required by Output Manager. The Output Manager administrator must work with the database administrator to ensure that appropriate space is available for each of these tables.

## DB2 backup and recovery considerations

You should employ regularly scheduled maintenance on the objects created during the installation of this tool, to assure data integrity and to optimize access performance. Such maintenance should include regularly scheduled Image Copies for data integrity, and Reorg and Runstats for access performance considerations.

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## Tailoring SYSOUT capture, storage, and output

Many sites direct JCL listings and production reports to different SYSOUT classes. For instance, you might specify MSGCLASS=A on job cards but use //PRODREPT DD SYSOUT=B for production reports. Additionally, you may have different storage and retention requirements for JCL listings than you would for production reports.

Output Manager provides flexibility regarding how you specify what output to capture and how it is to be stored. When planning for Output Manager use, consider the following:

- Selector rules specify what SYSOUT Output Manager is to capture.
- Archive attributes specify where captured data is to be stored.
- The combination of selector rule parameters and archive attribute parameters determine what is captured and stored.

For example, suppose you want to store your JCL listings in archive data sets based on the following archive mask:

```
SYSOUT.&JOBNAME.&JOBNUMB
```

---

## Chapter 3. Customizing IBM Output Manager

Before customizing IBM Output Manager, complete the installation instructions found in the *Program Directory for IBM Output Manager for z/OS*.

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### Customization overview

After installing IBM Output Manager, you must complete the customization steps summarized below. For more information about each step, refer to the corresponding sections as indicated.

*Table 2. Overview of steps for configuring IBM Output Manager*

Step	Description	Reference
1	Modify Output Manager's DDL.	For more information, refer to "Step 1: Modify Output Manager's DDL" on page 16.
2	Execute the DDL.	For more information, refer to "Step 2: Execute the DDL" on page 16.
3	Bind the plan and grant plan EXECUTE authority.	For more information, refer to "Step 3: Bind the BJT plan and grant plan EXECUTE authority" on page 17.
4	APF-authorize the LOADLIB.	For more information, refer to "Step 4: APF-authorize the libraries" on page 18.
5	Specify startup commands	For more information, refer to "Step 6: Specify startup commands" on page 19.
6	Modify the started task JCL	For more information, refer to "Step 7: Modify the started task JCL" on page 21.
7	Create access to the interface.	For more information, refer to "Step 8: Create access to interface" on page 21.
8	Start IBM Output Manager and perform installation verification.	For more information, refer to "Step 9: Installation verification" on page 21.

### Customization members

The SBJTSAMP members shipped with Output Manager are described in Table 3.

**Note:** The following naming conventions apply to SBJTSAMP members:

- Those members whose names start with BJT@JC contain JCL.
- BJT@PROC is the main Output Manager PROC. All other members whose names start with BJT@PR provide input to BJT@PROC.

*Table 3. Description of Output Manager's SBJTSAMP members*

Member	Description
BJT\$INDX	Index describing SAMPLIB members.
BJT#IN00	Description of DB2 table installation process.

Table 3. Description of Output Manager's SBJTSAMP members

Member	Description
BJT#IN01	Depricated member. No longer used in BJT customization process.
BJT#IN02	Depricated member. No longer used in BJT customization process.
BJT#IN03	Command input for started task to set DB2 values.
BJT#IN04	Sample started task JCL.
BJT#RECV	Depricated member. No longer used in BJT customization process.
BJT@DBCR	DB2 DDL to create the Output Manager database.
BJT@DBDR	DB2 DDL to drop the Output Manager database.
BJT@DUMY	An empty member for proc substitution.
BJT@JCBI	JCL to perform the DB2 bind process.
BJT@JCDB	JCL that defines the BJT database and BJT table space.
BJT@JCGR	Grants EXECUTE authority for the plans.
BJT@JCUT	Contains general utility JCL that can be used to execute DDL and SQL.
BJT@PRBI	Defines Output Manager's bind parameters.
BJT@PRGR	Defines plan execution authorities.
BJT@PRH1	HSM archival retrieval input control card.
BJT@PRM3	Sets the plan name for use by the BJTBAPR3 program when the HSM migration completes. The BJTBAPR3 program updates the migration state with a success or failure indication depending upon whether migration from tape to SYSOUT was successful or not.
BJT@PROC	JCL procedure for executing TSO in batch for DB2 work.
BJT@PRSS	Identifies the DB2 subsystem to be used. A unique DB2SSID member needs to be created for each DB2 subsystem on which you plan to configure Output Manager. SBJTSAMP member BJT@PRSS can be used as a template if you need to create multiple DB2SSID members.
BJT@PRTI	DB2 utility control statements.
BJT@PRYR	This procedure is used for the HSM recall process. It will be started by the Output Manager started task whenever a user requests a recall of a migrated data set that is still in the foreign archive store.
BJT@TBCR	Creates Output Manager's DB2 tables. Output Manager uses 14 tables (BJTACT, BTJARC, BJTATT, BJTBAN, BJTDID, BJTDOS, BJTDST, BJTFOL, BJTFIX, BJTGEN, BJTLAY, BJTPRT, BJTRIX, BJTRPT).
BJT@TBDR	Drops Output Manager's tables.



Table 3. Description of Output Manager's SBJTSAMP members

Member	Description
BJT@TSC1 or BJT@TSC2	BJT@TSC1 creates a unique table space for each of Output Manager's tables. BJT@TSC2 creates a common table space for all of Output Manager's tables.  <b>Note:</b> During customization, you tailor and run either member BJT@TSC1 (recommended) or member BJT@TSC2.
BJT@TSD1 or BJT@TSD2	BJT@TSD1 enables you to drop Output Manager's table spaces when a unique table space was used for each of Output Manager's tables. BJT@TSD2 enables you to drop Output Manager's table space when a common table space was used for all of Output Manager's tables.
BJTALT01	Adds the PRTATTR_ID column to the BJTDDES table and adds the RBID column to the BJTRPT table. Also contains SQL for maintaining Output Manager's activity log. New installations only use the activity log maintenance SQL contained in BJTALT01.
BJTALT02	Contains DDL to (1) add indexes to the BJTARC and BJTRIX tables and (2) add a column to the BJTDDES table in support of subselector rules. This member performs maintenance tasks for existing installations of Output Manager. New installations do not use BJTALT02 since installation member BJT@TBCR has been updated to contain the DDL necessary to create the additional indexes and columns.
BJTALT03	Contains DDL to add columns to the BJTDDES table. New installations do not use BJTALT03 since installation member BJT@TBCR has been updated to contain the DDL necessary to create the additional columns.
BJTALT04	Contains DDL to add the MIGSTAT column to the BJTARC table. New installations do not use BJTALT04 since installation member BJT@TBCR has been updated to contain the DDL necessary to create the additional column.
BJTBANKP	Contains JCL to execute the sample bank report.
BJTBANKR	Contains data for the sample bank report.
BJTBARCH	Contains JCL to execute the catalog synchronization process in batch.

## Customization parameters

The parameters that you need to specify during customization are listed in the Table 4 on page 14 so you can determine the values that are appropriate for your site prior to performing the customization steps:

Table 4. Summary of IBM Output Manager customization variables

Variable	Description
?BJTBASE?	The ?BJTBASE? variable is defined in SAMPLIB members BJT@DBCR, BJT@TBCR, BJT@TSC1, BJT@TSC2, BJTALT04, and BJTDDL01. This variable is used to name the Output Manager database and table spaces. The recommended value for this variable is BJTBASE.
?BJTHLQ?	The ?BJTHLQ? variable must be defined in SAMPLIB members BJT@CBI, BJT@CGR, BJT@PRVR, BJT#IN04 (if used), and BJT@PROC, and SBJTEXEC members BJT, BJTA, and BJTD. This variable identifies your site's high-level qualifier that holds IBM Output Manager's product libraries, for example RSQA.
?BJTNAME?	The ?BJTNAME? variable must be defined in the NAME= line of SBJTEXEC member BJT and in the sample started task JCL (if used) in SBJTSAMP member BJT#INO4. This variable identifies the one- to eight- character name assigned to represent the instance of Output Manager you intend to configure. This variable is also referred to as the product instance name.
?BJTPLAN?	The ?BJTPLAN? variable must be defined in SAMPLIB members BJT#IN03, BJT@PRBI and BJT@PRGR. This variable identifies the one- to eight-character name for the DB2 plan that will be used with the instance of Output Manager you intend to configure. The recommended value for this variable is BJTPLAN.
?BJTPLANB?	The ?BJTPLAN? variable must be defined in SAMPLIB members BJT@PRBI and BJT@PRGR. This variable the plan name for the batch catalog synchronization process and is specified during the BIND and in the PARM parameter of the EXEC PGM=BJTBARCH JCL in sample member BJTARCH.
?BJTPLANC?	The ?BJTPLANC? variable must be defined in SAMPLIB member BJT@PRBV
?BJTPLAND?	The ?BJTPLAND? variable must be defined in SAMPLIB members BJT@PRM1 and BJT@PRBV.
?BJTPLANE?	The ?BJTPLANE? variable must be defined in SAMPLIB members BJT@PRBV, BJT@PRM2, and BJT@PRM3.
?BJTPLANF?	The ?BJTPLANF? variable must be defined in SAMPLIB members BJT@PRBI and BJT@PRGR.
?BJTQUAL?	<p>The ?BJTQUAL? variable must be defined in SAMPLIB members BJT@TBCR and BJT@TBAV. The ?BJTQUAL? variable is used to name the Output Manager tables. For example, if you define the ?BJTQUAL? variable in BJT@TBCR to be RSTEST, tables are named accordingly. For example, the BJTACT table would be named:</p> <p>RSTEST.BJTACT</p> <p>The ?BJTQUAL? variable, if properly defined in BJT@TBCR, relates Output Manager's DB2 tables to the Output Manager started task.</p> <p><b>Note:</b> If you intend to implement multiple instances of Output Manager, the value of the ?BJTQUAL? variable must be unique for each instance. You can use SAMPLIB member BJT@TBCR as a template to create multiple DDL members. Each DDL member can then be customized as needed to create the necessary objects for each instance of Output Manager .</p>

Table 4. Summary of IBM Output Manager customization variables (continued)

Variable	Description
?BJTTAPE?	The ?BJTTAPE? variable must be defined in SAMPLIB member BJT@PRVR. This variable identifies the tape unit that is to be used to read the archive tapes for conversion.
?DB2SSID?	The ?DB2SSID? variable must be defined in SAMPLIB members BJT#IN03 and BJT@PRSS. This variable identifies the one- to four-character DB2 subsystem ID of the DB2 subsystem that is to contain Output Manager's database components.  <b>Note:</b> Each instance of Output Manager can use the same DB2 subsystem or different ones.
?RUNLIB?	The ?RUNLIB? variable must be defined in SAMPLIB members BJT@PRTI and BJT@PRBI. This variable identifies the name of your DB2 RUNLIB data set that contains the collection of utilities and routines for , for example DSN.V710.RUNLIB.LOAD.
?SDSNLOAD?	The ?SDSNLOAD? variable must be defined in SAMPLIB members BJT@PROC, BJT#IN04 (if used), and BJT@PRVR. This variable identifies the name of your DB2 load library data set.
?TEPPLAN?	The ?TEPPLAN? variable must be defined in SAMPLIB members BJT@PRTI, and BJT@PRBI. This variable identifies the valid plan for the DSNTEP2 (or similar) program. For example, a valid plan may be DSNTEP2.

## Overview of Output Manager's DB2 objects

IBM Output Manager uses the following objects:

- **DB2 database.** Output Manager uses one DB2 database. Output Manager's database is a logical construction (existing only in the DB2 catalog) that groups the product's tables and table spaces together.
- **Tables.** Output Manager's DB2 tables contain the various Output Manager administrative constructs, archive data sets indexes, and custom reports indexes. Output Manager uses 14 DB2 tables (BJTACT, BTJARC, BJTATT, BJTBAN, BJTDID, BJTDDS, BJTDST, BJTFOL, BJTFIX, BJTGEN, BJTLAY, BJTPRT, BJTRIX, BJTRPT).
- **Table spaces.** Output Manager's table spaces are the physical data sets that hold the product's table data. Table spaces can contain one or more tables. They can be backed by one or more physical data sets when partitioning is implemented. We recommend that you have a unique table space for each table to facilitate DB2 operations (such as backup and recovery).
- **Storage groups.** A storage group is a set of physical volumes on which DB2 can create table spaces. The DDL provided with Output Manager uses SYSDEFLT STOGROUP. Table spaces are created in STOGROUPS.
- **Buffer pools.** Buffer pools are DB2 virtual constructs where data from DB2 tables are staged for use by applications (in this case Output Manager). Buffer pools are set up and maintained by the DB2 system administrator for performance reasons. Due to the size of Output Manager's banner table (BJTBAN), it must be staged into a 32 K buffer pool.

**Note:** This can be done either by creating the banner table in a table space that is assigned to a 32 K buffer pool or at the database level. However, it is

recommended that you use the more common technique of assigning it at the table space level.

---

## Customization steps

After you have installed Output Manager according to the instructions in the *Program Directory for IBM Output Manager for z/OS*, you must complete several steps to customize the product for your environment. Customization steps must be completed before executing Output Manager for the first time.

### Step 1: Modify Output Manager's DDL

DB2 objects are maintained via a data definition language (DDL). Output Manager's DDL is provided in the SBJTSAMP library. The steps below describe how to modify Output Manager's DDL to reflect the needs of your implementation:

1. Edit SBJTSAMP member BJT@DBCR:
  - a. Change the variable ?BJTBASE? to a valid database name. The recommended name is BJTBASE.  
**Note:** The value you specify for ?BJTBASE? must be unique within the DB2 system for which you are configuring Output Manager. Check with your DB2 systems administrator to ensure the value you specify for the database name is valid and adheres to your site's naming conventions.
  - b. Save the member.
2. Edit SBJTSAMP member BJT@TSC1 or BJT@TSC2. If you want to create a unique table space for each of Output Manager's tables, edit member BJT@TSC1 (recommended). If you want to create a common table space for all of Output Manager's tables, edit member BJT@TSC2.
  - a. Change each occurrence of the variable ?BJTBASE? to the valid database name you used in step 1a.
  - b. By default, BP32K is assigned to the table space for the large table, BJTBAN. This can be changed based on your installation requirements.
  - c. Save the member.
3. Edit SBJTSAMP member BJT@TBCR:
  - a. Change each occurrence of the variable ?BJTBASE? to the valid database name you used in step 1a.
  - b. Change each occurrence of the variable ?BJTQUAL? to the appropriate value for use in naming Output Manager's tables.
  - c. Save the member.

### Step 2: Execute the DDL

Your DB2 installation may have multiple instances of DB2 running. Check with your DB2 system administrator before attempting to execute DDL to verify that you have the proper authority to do so. Additionally, each DB2 installation is likely to have unique conventions regarding DDL execution, tracking, and managing. The steps below describe some of the options you might consider in executing DDL for your Output Manager implementation.

#### Approach 1: Using DSNTEP2 to execute DDL

To use DSNTEP2 to execute DDL:

1. Edit SBJTSAMP member BJT@PRSS by changing the ?DB2SSID? variable to the appropriate DB2 subsystem ID of the DB2 subsystem that is to contain Output Manager's database components.  
**Note:** A unique DB2SSID member needs to be created for each DB2 subsystem on which you plan to configure Output Manager. SBJTSAMP member BJT@PRSS can be used as a template if you need to create multiple DB2SSID members.
2. Edit SBJTSAMP member BJT@PRTI:
  - a. Change the ?TEPPLAN? variable to the valid plan for the DSNTEP2 (or similar) program.
  - b. Change the ?RUNLIB? variable to the name of your DB2 RUNLIB data set.
3. Edit SBJTSAMP member BJT@PROC:
  - a. Change the ?SDSNLOAD? variable to the name of your DB2 load library data set.
  - b. Change the ?BJTHQL? variable to your site's high-level qualifier that holds IBM Output Manager's product libraries.
4. Edit SBJTSAMP member BJT@JCDB:
  - a. SBJTSAMP member BJT@JCDB contains the JCL to execute BJT@PROC and thus create the DB2 objects Output Manager requires. By default, BJT@JCDB is shipped to include BJT@TSC1 (unique table space for each table). If you selected to use BJT@TSC2 instead of BJT@TSC1, edit BJT@JCDB to specify BJT@TSC2 instead of BJT@TSC1 in the SYSIN DD statement.
  - b. Change the ?BJTHQL? variable to your site's high-level qualifier that holds IBM Output Manager's product libraries.
  - c. Modify the jobcard information to reflect your site's standards.
5. Run BJT@JCDB.

## Approach 2: Using SPUFI to execute DDL

SPUFI is a standard utility shipped with DB2. Check with your DB2 system administrator regarding how to access SPUFI at your site and how it can be used to execute Output Manager's DDL.

## Step 3: Bind the BJT plan and grant plan EXECUTE authority

SBJTSAMP member BJT@PRBI contains Output Manager's bind control statements. SBJTSAMP member BJT@JCBI contains the JCL used to execute the PROCs and points to member BJT@PRBI (which provides the BIND parameters). SBJTSAMP member BJT@JCGR grants EXECUTE authority for the plan.

1. Edit SBJTSAMP member BJT@PRBI:
  - a. Change all occurrences of ?BJTPLAN? to a valid plan name to be used by Output Manager's programs. The recommended value for the ?BJTPLAN? variable is BJTPLAN.  
**Note:** The ?BJTPLAN? is the plan the started task uses and is the name specified during the BIND process and is placed in the CONFIGUR DD statement of the started task as part of the command SET DB2 planname.
  - b. Change all occurrences of ?BJTPLANB? to a valid plan name to be used by Output Manager's batch catalog synchronization process. The recommended value for the ?BJTPLANB? variable is BJTPLANB.

**Note:** The ?BJTPLANB? is the plan name for the batch catalog synchronization process and is specified during the BIND and in the PARM parameter of the EXEC PGM=BJTBARCH JCL in sample member BJTXARCH.

- c. Change all occurrences of ?BJTPLANE? to a valid plan name to be used by Output Manager's BJTAPR3 program. The recommended value for the ?BJTPLANE? variable is BJTPLANE.
  - d. Change all occurrences of ?BJTPLANF? to a valid plan name to be used by Output Manager's the BJTAPHR program. The recommended value for the ?BJTPLANF? variable is BJTPLANF.
  - e. Change all occurrences of ?BJTQUAL? to the value you used when defining Output Manager's DB2 tables in "Step 1: Modify Output Manager's DDL" on page 16.
  - f. Change all occurrences of ?BJTHLQ? to a valid high level qualifier. The value you assign to the ?BJTHLQ? variable will be used throughout the installation.
2. Edit SBJTSAMP member BJT@JCBI:
    - a. Modify the jobcard information to reflect your site's standards.
    - b. Change the ?BJTHQL? variable to your site's high-level qualifier that holds IBM Output Manager's product libraries.
  3. Edit SBJTSAMP member BJT@JCGR:
    - a. Modify the jobcard information to reflect your site's standards.
    - b. Change the ?BJTHQL? variable to your site's high-level qualifier that holds IBM Output Manager's product libraries.
  4. Run BJT@JCBI.
  5. Run BJT@JCGR.

## Step 4: APF-authorize the libraries

IBM Output Manager requires that the target load library (*highlevel.SBJTLOAD*) be APF-authorized. Include the *highlevel.SBJTLOAD* library as part of your system APF-authorized list. Contact your system administrator if you need assistance.

**Note:** Changes you make to SYS.PARMLIB require an IPL command for the PARMLIB updates to take effect.

## Step 5: Customize HSM recall and related members

The customization of the HSM recall procedure requires modification of the following SBJTSAMP members: BJT@PRYR, BJT@PRH1, and BJT@PRM3. The HSM recall procedure is initiated by the Output Manager started task whenever a user requests the recall of an HSM migrated data set.

To customize the HSM recall procedure:

1. Edit SBJTSAMP member BJT@PRYR:
  - a. Change the ?BJTHLQ? variable to your site's high-level qualifier that holds IBM Output Manager's product libraries.
  - b. Change the ?SDSNLOAD? variable to the name of your DB2 load library data set.
2. Edit SBJTSAMP member BJT@PRH1 to change the ?BJTPLANF? variable to a valid plan name to be used by the BJTBAPHR program. The recommended value for the ?BJTPLANF? variable is BJTPLANF.

3. Edit SBJTSAMP member BJT@PRM3 to change the ?BJTPLANE? to a valid plan name to be used by the BJTAPR3 program. The BJTAPR3 program is an error completion program. The recommended value for the ?BJTPLANE? variable is BJTPLANE.
4. Place the HSM recall procedure, BJT@PRYR, in your system PROCLIB.  
**Note:** You can rename the HSM recall procedure to the name of your choice. For example, the HSM recall procedure might be renamed to BJTB22YR. The name you give the HSM recall procedure must be referenced in the SUBMIT SET command in the startup command list in BJT#IN03.

## Step 6: Specify startup commands

Specify Output Manager's startup commands in SBJTSAMP member BJT#IN03. Startup commands specified in BJT#IN03 are issued each time Output Manager is started. Table 5 describes the various optional and required startup commands:

*Table 5. Output Manager's startup commands*

Command	Description
DB2 SET ID ?DB2SSID?	(Required) Sets the DB2 subsystem on which IBM Output Manager resides.
DB2 SET PLAN ?BJTPLAN?	(Required) Specifies the BJT plan name.
POLICY RESTART	(Recommended) Causes the automatic restart of selectors when Output Manager is recycled or activates the selectors on the first start up of Output Manager after an IPL.  <b>Note:</b> If this is a new installation of Output Manager, POLICY RESTART should be deleted or commented out, as no selectors yet exist. Once selectors are added to Output Manager, please insert POLICY RESTART or remove the comment-out asterisk.
VARIABLE SET <i>variable=value</i>	(Optional) Sets reserved and non-reserved (user-defined) variables for use in banner pages. For more information about Output Manager's variables, you can specify in BJT#IN03, see <i>Appendix D: Variables</i> in the <i>IBM Output Manager for z/OS User's Guide</i> . Variables defined in BJT#IN03 can then be referenced by banner pages.

Table 5. Output Manager's startup commands

Command	Description
PROTVIEW <i>option</i>	<p>(Optional) Turns on view security. Valid values for the PROTVIEW option are:</p> <ul style="list-style-type: none"> <li>• OFF–View security is voluntary. The USERID field displays on the report and archive search panels.</li> <li>• USER–Any user whose access authority is USER has the view security enforced (they can only view reports for which their USERID has been setup as a recipient on a distribution list assigned to that report). View security is voluntary for users with AUDIT or ADMIN access authority.</li> <li>• AUDIT–Any user whose access authority is AUDITOR has the view security enforced (they can only view reports for which their USERID has been setup as a recipient on a distribution list assigned to that report). View security is voluntary for users with ADMIN access authority. View security is enforced for users with USER access authority.</li> <li>• ADMIN–Any user whose access authority is ADMIN has the view security enforced (they can only view reports for which their USERID has been setup as a recipient on a distribution list assigned to that report). View security is enforced for all users. No other users can enter USERID as search criteria.</li> <li>• SAF–Applies veiw security based on access to facilyt class <i>ID.PRODNAME.SECV</i> where ID is set by SAF global command and PRODNAME is the product instance name (for example BJT.BJTP.SECV). View security is enforced for all users with NONE or READ access to this facilyt. Those that have UPDATE or CONTROL access can enter a USERID in the search panels.</li> </ul>
SUBMIT SET HSMRECAL <i>hrproc</i>	<p>(Required if using HSM migration procedure) Where <i>hrproc</i> is the HSM recall procedure name. Enables the started task to initiate the HSM recall procedure.</p>

**Note:** Because the started task references member BJT#IN03, you must complete this step (“Step 6: Specify startup commands” on page 19) prior to modifying the started task.

1. Edit SBJTSAMP member BJT#IN03 as needed to contain the startup commands necessary for your system.
  - a. Replace the ?DB2SSID? variable in the DB2 SET ID command with the DB2 subsystem ID on which IBM Output Manager resides.
  - b. Replace the ?BJTPLAN? variable in the DB2 SET PLAN command with your BJT plan name.
 

**Note:** The value you use for the ?BJTPLAN? variable should be the same as that used in BJT@PRBI.
  - c. Specify any of Output Manager’s other startup commands described in Table 5 on page 19 as needed for your system’s requirements.
 

**Note:** If you intend to use the HSM view recall procedure, you must specify the SUBMIT SET HSMRECAL parameter.



2. Save SBJTSAMP member BJT#IN03.

## Step 7: Modify the started task JCL

You must modify the started task JCL contained in SBJTSAMP member BJT#IN04 according to your site's standards. After modifying the started task, you must place the JCL in your system PROCLIB.

**Note:** The started task for Output Manager can be any name you assign.

1. Edit SBJTSAMP member BJT#IN04.
  - a. Replace ?BJTNAME? with product instance name you have chosen for this instance of Output Manager. This is the same name you will specify in the next step, "Step 8: Create access to interface."
  - b. Replace ?BJTHLQ? with the high level qualifier of your installed IBM Output Manager libraries.
  - c. Replace ?SDSNLOAD? with the DB2 LOADLIB for IBM Output Manager.
2. Place the modified member BJT#IN04 in your system PROCLIB.

## Step 8: Create access to interface

To create access to the Output Manager interface, you must create the invocation executable to call the user interface for Output Manager. To do this:

1. Edit the SBJTEXEC members BJT, BJTA, and BJTD to point to the product libraries.
  - a. Change the ?BJTHLQ? variable to the high-level qualifier you assigned to the Output Manager libraries.
  - b. Change the ?BJTNAME? variable in the NAME= statement to the product instance name you intend to use for this instance of Output Manager.
2. Save your changes to and make the EXEC members available to your TSO users. Contact your system administrator for assistance.

## Step 9: Installation verification

Issue the MVS START command to start the Output Manager started task. For example, in SDSF you can do so by typing /S BJT# (where BJT# is the Output Manager product instance name). After issuing the start command, verify that installation was successful. To do so:

1. Check for messages that indicate the status of the started task. If you receive the following message, the started task is up and running and you can continue to the next step to check the interface:

```
BJT02036I IBM Output Manager is ready for commands
```

If you do not receive message BJT02036I, "IBM Output Manager is ready for commands", the started task is not running. In this case, look at other informational messages to determine potential problems. Review the product customization steps or contact your system administrator for further assistance.

2. Start the interface. To access the interface for IBM Output Manager, execute the BJT EXEC that you modified in "Step 8: Create access to interface" The IBM Output Manager main menu appears. Press Enter to remove the copyright statement. The main menu appears as shown below:

```

View Administration Preferences Help
-----
                                IBM Output Manager
Command ==>

                                Product name: OMID
P  Preferences                    Terminal and user parameters
V  View Reports                   Create and change reports
A  Administrative Functions       Administer rules and reports
I  Installation Verification      Verify installation

X  Exit

-----
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-----

```

3. Perform installation verification steps. To proceed with installation verification, type I at the command line and press Enter. The following message appears if installation was successful:

```

IBM Output Management Tool is available
Last verified at 11/04/2002 - 17:44:26 on system RS22
Started task was OMID, product name was OMID
This verification occurred at 11/05/2002 - 04:11:20 on system RS22
Started task is OMID, product name is OMID

```

If installation was not successful, you will see one of the following error messages:

- "Product instance name" is not active. Start the product instance to make it active.
- "DB2 is not available." If you receive this message, check the following items:
  - The DB2 subsystem ID is valid.
  - EXECUTE authority is assigned to the USERID of the Output Manager started task.
  - The plan name is valid.
  - The DB2 tables were created successfully.

---

## Chapter 4. Security

IBM Output Manager implements security on both external and internal levels. External security enables you to manage and secure Output Manager's resources by leveraging existing RACF security via the SAF router interface. Internal security enables you to categorize users into three groups (users, administrators, and auditors) so as to provide each user group with the appropriate access to product functionality.

IBM Output Manager also deals with security at the archive data set level. By leveraging the RACF security definitions already in place in your environment, you can establish the level of access to IBM Output Manager's archive data sets appropriate for each user.

The table below defines the basic terms used throughout this chapter to describe Output Manager's security concepts:

*Table 6. Definition of terms*

<b>Term</b>	<b>Definition</b>
access authority	The privileges granted to a particular user or group when accessing a protected resource (such as the ability to read or update a data set). For Output Manager resources protected by RACF profiles, the access authorities are NONE, READ, UPDATE, and CONTROL. These authorities are hierarchical, with UPDATE also granting READ, CONTROL granting UPDATE, and so forth.
access intent	When a user performs an action in Output Manager, they are attempting to access the resource with some intent. That intent is referred to as the <i>access intent</i> . If the user has sufficient authority for the given request, they will be granted access to the appropriate resources.
access list	A list of RACF user IDs and group names authorized to access a resource. This list also includes the level of access granted to each user ID and group.
authority	The right to access objects, resources, or functions.
class	A collection of RACF-defined entities (users, groups, and resources) with similar characteristics. Classes are defined in the class descriptor table (CDT) except for the USER, GROUP and DATASET classes.
profiles	RACF-defined entities that are used as the primary protection mechanism. Each Output Manager installation defines its own set of profiles to give the level of protection desired. Profiles can contain wildcards, thus enabling the coverage of more than one resource type, ID, subsystem, etc.
resource	An entity protected by the security system, for example, data sets, programs, and application-specific objects are resources.

Table 6. Definition of terms

Term	Definition
resource name	The structured name associated with each Output Manager resource. The resource name facilitates the use of wildcards at various levels. The general structure of a resource name consists of levels, like data set names, which are separated by periods. The structure of a resource name is <code>bjt.ssss.restyp.resid</code> where <code>bjt</code> is the three-character SAF ID, <code>ssss</code> is the product instance name, <code>restyp</code> is the object type (menu, rules, arcattr, etc.) and <code>resid</code> is the instance of the particular object. Resource names that contain blanks are represented in RACF profile names with the "_" character. All resource names will be automatically changed to uppercase.
SAF ID	The variable that identifies the highest level of the structured resource name. This variable is used to differentiate a structured resource from other general resources (such as operator commands).
universal access authority (UACC)	The default access authority that applies to a resource if the user or group is not specifically permitted access to the resource. The universal access authority can be any of the access authorities.

## External security

Output Manager's external security functionality leverages system security to manage the product's resources. Output Manager uses the SAF router interface to manage product components and to provide access-control checking and authorization-related checking. To implement Output Manager's external security functionality, your site must have a SAF-enabled interface such as RACF.

### External security in a RACF environment

RACF profiles provide Output Manager with a mechanism for creating a hierarchy of protection for the product's various resources. RACF profiles are ordered and displayed in a specific-to-generic order.

When a user requests an Output Manager resource, the following actions occur:

1. Output Manager makes a call (using a specific resource name and access intent) to RACF to verify whether or not that resource is protected.
2. RACF takes the specific resource name and locates the defined profile that fits it, if any.
3. RACF then searches all of the profiles looking for a specific profile. If there is no match, then RACF searches for generic profiles.
4. If a profile is found, RACF checks to see if the requesting user is on that profile's access list. If the user is on the profile's access list, RACF compares the user's access intent to the access authority; if access intent and access authority permit, the user is then granted access to the resource.
5. If the user is not on the profile's access list the access intent is checked against the universal access (UACC) of the profile, and permission is granted or not.

For example, if a user selects option A.I (Interceptor rules) on the IBM Output Manager main menu, a call is made using the resource name (for example, `BJT.BJT.B.IRUL`). If the resource has a profile and the user is on the profile's access list with UPDATE authority, the user can view but not change the interceptor rules. If the user has CONTROL authority, the user can both view and update the interceptor rules.

## Resources

Output Manager can be broken down into a set of resources or entities that can be individually protected by the security system (for example, data sets, programs, or application-specific objects). Output Manager's resources are summarized in the table that follows.

**Note:** The examples in the table below show the resource names for an Output Manager implementation whose SAFID is BJT and whose product instance name is BJTB. For more information about how to form a resource name, see "Resource names" on page 27

Table 7. Output Manager's resources

Resource	Resource type	Description
Menu	MENU	<p>Menu resources are resources that consist of the various menu options available to users. There are three resource IDs associated with the MENU resource type:</p> <ul style="list-style-type: none"> <li>• MAIN</li> <li>• VIEW</li> <li>• ADMIN</li> </ul> <p>Examples of menu resource names include: BJT.BJT.B.MENU.MAIN, BJT.BJT.B.MENU.ADMIN, and BJT.BJT.B.MENU.VIEW</p> <p><b>Note:</b> Users are required to have at least READ access authority to be able to view MENU.MAIN and MENU.VIEW resources (panels BJTPMAIN and BJTPVIEW). Users are required to have UPDATE access authority to be able to view the MENU.ADMIN resource (panel BJTPADMN). Users are required to have CONTROL access authority to be able to view, change, create, or delete Output Manager resources. Some resources, such as individual reports, can be further protected by more specific resource names and additional RACF profiles.</p>
Reports	RPRT	<p>Report resources are resources that consist of the print data streams produced by user-defined programs or other software programs and captured by Output Manager. An example of a report resource name is: BJT.BJT.B.RPRT.PAYROLL</p>
Interceptors	IRUL	<p>Interceptor resources are administrative resources and consist of Output Manager's rules that (1) specify the criteria by which SYSOUT is captured prior to its reaching the spool and (2) define what to do with captured SYSOUT. An example of an interceptor resource name is: BJT.BJT.B.IRUL</p>
Selectors	SRUL	<p>Selector resources are administrative resources and consist of Output Manager's rules that (1) specify the criteria by which specific output types are selected directly off the spool and (2) define what to do with captured output. An example of a selector resource name is: BJT.BJT.B.SRUL</p>

Table 7. Output Manager's resources (continued)

Resource	Resource type	Description
Report rules	RRUL	Report rule resources are administrative resources and consist of Output Manager's rules that (1) specify the criteria (such as the job, proc, program, DD name and step) against which captured reports are matched to determine if they should be processed into basic reports and (2) identify the report layout, that if used by a custom report definition, initiates the creation of a custom report from a basic report. An example of a report rule resource name is: BJT.BJTB.RRUL
Archive attributes	ARCA	Archive attribute resources are administrative resources that are sets of attributes that Output Manager uses when allocating a sequential file to hold captured SYSOUT. An example of an archive attribute resource name is: BJT.BJTB.ARCA.ONEUP_PRINT
Layout definitions	LAYO	Layout definitions are administrative resources that provide Output Manager with a way of describing how original reports look as produced by an application. An example of a layout definition resource name is: BJT.BJTB.LAYO.DEPOSITS
Custom reports	CURP	Custom reports are administrative resources that are a subset of a captured report. An example of a custom report resource name is: BJT.BJTB.CURP.MONTHLY
Recipients	RCPN	Recipients are administrative resources that represent information about an individual or generic location such as name, address, building, printer destination, SYSOUT class, or USERID. An example of a recipient resource name is: BJT.BJTB.RCPN.MANAGERS
Distribution lists	DIST	Distribution lists are administrative resources that represent a group of recipients that are linked to a custom report definition and control the real time, reprint, or reprint with distribution functions. An example of a resource name for an individual distribution list is: BJT.BJTB.DIST.DENVER
Printer attributes	PRTA	Printer attributes are administrative resources that include information about general printing attributes, PSF-related attributes, and attributes associated with printing on a 3800 series printer. An example of a printer attribute resource name is: BJT.BJTB.PRTA.DEFAULT
Banner pages	BANR	Banner pages are administrative resources that enable you to provide additional information with your printed reports. An example of a resource name for an individual distribution list is: BJT.BJTB.BANR.MONTHLY
Activity monitor	ACTM	The activity monitor is a function that enables report administrators to access information about Output Manager's report processing activities. An example of an activity monitor resource name is: BJT.BJTB.ACTM
Product status	STAT	Product status is a function that enables report administrators to view the current status of Output Manager. An example of a product status resource name is: BJT.BJTB.STAT
Installation verification	IVER	Installation verification is a function that enables administrators to verify the proper installation of the Output Manager product. An example of an installation verification resource name is: BJT.BJTB.IVER

Table 7. Output Manager's resources (continued)

Resource	Resource type	Description
Activate command	CMND	The Activate command enables administrators to activate the current rules policy for Output Manager. An example of an activate command resource name is: BJT.BJTNAME.CMND.ACTIVATE

## Resource names

Each resource has a structured name associated with it. The general structure of a resource name consists of levels separated by periods. The structure of a resource name is:

BJT.BJTNAME.restyp.resid

The following table describes the components of the resource name:

Table 8. Components of a resource name

Component	Description
BJT	This component of the resource name corresponds to the SAF ID and identifies the highest level of the structured resource name. This variable is used to differentiate a structured resource from other general resources (such as operator commands).
BJTNAME	The product instance name. <b>Note:</b> This product instance name is the same as the ?BJTNAME? variable used in "Customization steps" on page 16.
restyp	The resource type.
resid	The resource ID. <b>Note:</b> The resource names for rule resources (IRUL, SRUL, RRUL) do not contain a resid. Rule resources are protected at the level of their restyp. The resid enables another layer of protection needed by resources such as reports (RPRT) and thus enables individual reports to be uniquely named and protected.

Resource names uniquely identify each of Output Managers resources (such as reports, interceptors, selectors, and so forth; for a complete list of Output Manager's resources, see Table 7 on page 25). Each time a user selects an option that corresponds to one of Output Manager's resources, a resource call is made to verify what level of access is defined by the user's access authority.

## Access authorities

RACF access authorities are the privileges granted to a particular user or group when accessing a protected resource (such as the ability to read or update a data set). Output Manager uses four access authorities: NONE, READ, UPDATE, and CONTROL. These authorities are hierarchical, with UPDATE also granting READ, CONTROL granting UPDATE, and so forth. The table below describes each of these access authorities.

**Note:** The definition of a RACF term (NONE, READ, UPDATE, CONTROL) does not necessarily match what the term implies. Be sure to read the description for each access authority to obtain an accurate understanding of each authority.

Table 9. Output Manager's access authorities

Access authority	Description
NONE	The user does not have access to the resource.
READ	The user is classified as a USER and can view, but not change, the resource.
UPDATE	The user is classified as an AUDITOR and can look at but not change the resource.
CONTROL	The user is classified as an ADMINISTRATOR and can view and change resources.

Access to Output Manager's resources is controlled by these access authorities. For examples of how to implement different security scenarios, see "Sample security scenarios" on page 29. Given a good understanding of RACF, your site may choose to design your own technique for protecting Output Manager's resources.

## Activating external security

When activated, Output Manager's external security functionality makes calls to RACF to see if and how product resources are protected for each user and access intent. To activate external security, issue the product modify command:

```
MODIFY STCN, SAF SET ID xxxx
```

where STCN is the started task name, xxxx is a three- to four- character SAF ID.

## Displaying the current SAF ID

To display the current SAF ID, enter the following command:

```
MODIFY STCN, SAF QUERY ID
```

where STCN is the started task name.

## Deactivating external security

To deactivate external security, Enter the following command:

```
MODIFY STCN, SAF SET ID
```

where STCN is the started task name.

---

## Internal security

Output Manager's internal security functionality categorizes users into three groups: users, administrators, and auditors. To implement internal security, your system administrator modifies each user's EXEC to set the ?BJTUSER? variable to the appropriate value for that user (USER, ADMIN, or AUDITOR).

Table 10. Description of user types

User type	Description
USER	Users are typically people that look at the actual reports or archives.



Table 10. Description of user types (continued)

User type	Description
ADMIN	Administrators are those people who manipulate the rules and control structures that configure the product.
AUDITOR	Auditors are a type of administrator who can view administrative data but cannot alter it.

To set internal security for a given user to USER, ADMIN, or AUDITOR, you must pass the appropriate EXEC as the second word of the parm on the invocation of BJTEXEC.

Table 11. Output Manager's sample EXECs

Sample EXEC	Description
BJTU	This sample exec can be used to launch Output Manager as a user with USER internal security via the command TSO BJTU.
BJTW	This sample exec can be used to launch Output Manager as a user with AUDITOR internal security via the command TSO BJTW.
BJTA	This sample exec can be used to launch Output Manager as a user with ADMIN internal security via the command TSO BJTA.
BJTD	This sample exec can be customized to contain a table of users IDs and their corresponding internal security settings. Users would launch Output Manager via the TSO BJTD command. The internal security for each user is then determined by the internal security settings contained within BJTD.

---

## Archive data set security considerations

Since IBM Output Manager does not allow you to bypass your system security tool, it is important to understand that any IBM Output Manager archive data set naming conventions should be designed to fit within your environment's existing RACF security definitions. In this way, each user's access to IBM Output Manager's archive data sets for online viewing, printing, and distribution purposes is regulated by their RACF settings.

---

## Sample security scenarios

In all scenarios listed below, it is assumed that the Output Manager SAF ID is BJT.

### Scenario 1: Protecting Output Manager resources using one profile

This scenario illustrates how your site can implement Output Manager's external security by using one profile, BJT.\*. This approach enables you to protect Output Manager resources by creating a single profile with a universal access of READ or NONE. You can then grant those users who you want to be administrators an access authority of CONTROL. If you want to define auditors, then those users would need to have an access authority of UPDATE. General users would require an access authority of READ.

**Note:** For more information about using wildcards with RACF profiles to protect Output Manager resources, see “Using wildcards in RACF profiles to protect resources”

To protect Output Manager resources using one profile:

1. Create a single profile, BJT.\*, with a universal access of READ. This causes Output Manager to treat all users as general users and grants them the ability to look at, but not change, resources. For example:

```
RDEFINE FACILTY BJT.* UACC(READ)
```

2. Identify the users you want to be administrators for your Output Manager system. Grant those users CONTROL access authority for BJT.\*. For example:

```
PERMIT BJT.* ACCESS(CONTROL) CLASS(FACILITY) ID(PDFRED)
```

3. Identify the users you want to be auditors for your Output Manager system. Grant those users UPDATE access authority for BJT.\*. For example:

```
PERMIT BJT.* ACCESS(UPDATE) CLASS(FACILITY) ID(PDPAM)
```

## Scenario 2: Protecting specific Output Manager data using resource names

This scenario illustrates how your site can protect a resource while granting access to a specific portion of that resource to selected user IDs. This approach enables you to pinpoint the data to which a user has access. In this example, the protected resource is custom reports (option A.C on the Output Manager main menu) and the data you want to enable the user access to is a single custom report, BANK\_REPORT.

To protect specific Output Manager data using resource names:

1. Create a single profile, BJT.BJT.B.CURP with universal access of NONE. For example:

```
RDEFINE FACILTY BJT.BJT.B.CURP UACC(NONE)
```

2. Identify the users you want to permit access to the BANK\_REPORT custom report. Grant those users READ access authority for BJT.BJT.B.CURP.BANK\_REPORT. For example:

```
PERMIT BJT.BJT.B.CURP.BANK_REPORT ACCESS(READ) CLASS(FACILITY) ID(PDFRED)
```

## Using wildcards in RACF profiles to protect resources

By using wildcards in the RACF profiles that protect your Output Manager resources, you can protect groups of resources using one or a few RACF profiles. For example:

- You may create a profile to protect all of your system’s archive attribute resources, by creating the following profile:

```
BJT.BJT.B.ARCA.*
```

Such a profile would protect all resources whose resource names match the conditions of this wildcard. For example, if your site’s Output Manager system included the following archive attribute resources:

```
BJT.BJT.B.ARCA.ONEUP_PRINT
```

```
BJT.BJT.B.ARCA.BRANCH_REPORT
```

these resources would both be protected by the BJT.BJT.B.ARCA.\* profile.

**Note:** The list of archive attribute resources, BJT.BJT.B.ARCA, would not be protected by the BJT.BJT.B.ARCA.\* profile.

- You may create a profile to protect your system’s archive attribute resources as well as the list of those archive attribute resources by creating the following profile:

BJT.BJT.B.ARCA.\*\*

Such a profile (that uses the double asterisk, \*\*) would protect the individual archive attribute resources as well as the list of those archive attribute resources.

---

## About MENU resources

The following sections provide supplemental information regarding Output Manager's MENU resources.

### MENU.MAIN

If there is no profile protecting the MENU.MAIN resource, the user is set to ADMIN and minimum access authority is READ. If a profile exists for MENU.MAIN, then the access authority the user has controls the type of user that they are (such as USER, ADMIN, or AUDITOR). If the user has UPDATE authority, then they are considered by Output Manager to belong to the ADMIN user group.

### MENU.VIEW

View resources are accessed via MENU.VIEW and include archives and reports. Archives are MVS data sets and, since protected via data set protection, require no additional internal product security. Reports are Output Manager resources and are therefore protected via their names. For more information about each of these resources, see Table 7 on page 25. Some examples of report names include: BJT.BJT.B.RPRT.PAYROLL or BJT.BJT.B.RPRT.BANK\_REPORT.

**Note:** This example shows the resource name for an Output Manager implementation whose SAFID is BJT and whose product instance name is BJT.B. For more information about how to form a resource name, see "Resource names" on page 27.

If there is no profile protecting MENU.VIEW, the user inherits their access from MENU.MAIN. Both users and administrators can view this menu. Minimum access authority is READ. If a user has READ or UPDATE authority to this resource, they can view this menu.

### MENU.ADMIN

Administrative resources are accessed via MENU.ADMN and include the following resources: IRUL, SRUL, RRUL, ARCA, LAYO, CURP, RCPN, DIST, PRTA, ACTM, STAT, and IVER. For more information about each of these resources, see Table 7 on page 25.

If there is no profile protecting MENU.ADMIN, the user inherits their access from MENU.MAIN. Only administrators and auditors can view this menu. Minimum access authority is UPDATE. If the user has UPDATE access to this resource then the user can see the menu and view resources but cannot add, change, create, nor delete resources. If the user has CONTROL access to this resource, then the user can view, add, change, create, and delete resources.

---

## View security

View security provides report administrators with a mechanism for controlling the reports users can view. View security relies upon the following Output Manager functions to provide a mechanism to control the viewing of basic and custom reports:

- Recipients
- Distribution lists

- Report searching

View security is configured for a report using recipients and distribution lists. To secure a report and enable only specified users to view that report, you must create a distribution list, assign that distribution list to the report, define recipients for the USERIDs who are to be allowed to view the report, and assign the recipients to the report's distribution list. For more information about configuring security for a report, refer to *Chapter 12, View Security*, of the *IBM Output Manager for z/OS User's Guide*.

View security is enforced via an extension of the report search functionality. The report search panel contains a field USERID that controls what reports are returned based on the specified USERID. For example, when a specific TSO USERID is specified in the USERID field, only reports associated with that USERID (via the appropriate configuration of recipients and distribution lists) are displayed in the search results. Thus, in order to return reports using the search function, reports must be assigned a distribution list.

The PROTVIEW command is specified as a startup command and enables report administrators to enforce various levels of view security. For more information about the PROTVIEW command and options, see Table 5 on page 19

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