

# Logical Printers

This section explains logical printers and the operations that can be performed on them. It covers the following topics:

- What is a Logical Printer?
  - Available Commands for Logical Printers
  - Listing All Logical Printers
  - Listing Selected Logical Printers
  - Adding a New Logical Printer
  - Modifying a Logical Printer
  - Displaying a Logical Printer
  - Renaming a Logical Printer
  - Copying a Logical Printer
  - Deleting a Logical Printer
  - Authorizing User Access to a Logical Printer
  - Displaying Log Information for a Logical Printer
  - XML Printers
- 

## What is a Logical Printer?

Logical printers are used to print reports or bundles. A logical printer refers to printing on a physical printer such as a VTAM printer, a system printer or a DASD sequential dataset by applying a set of printing characteristics, such as FORM, CHARS, FCB, etc. Different logical printers can print on the same physical printer but with different characteristics.

### Prerequisite

To define logical printers, you must first have defined at least one physical printer for your system. For information on physical printers, see the section *Defining a Physical Printer* in the *System Administration* documentation.

## Available Commands for Logical Printers

▶ To list all available commands for logical printers:

1. In the object workspace, expand the **Printers** folder.
2. Select a printer and invoke the context menu.

A list of available commands appears.

The following table briefly explains each command:

Command	Shortcut	Explanation
Authorization	F9	Authorize other users to process the logical printer.
Copy	Ctrl+C	Copy a logical printer. (*)
Delete	Del	Delete a logical printer. (*)
Display	Ctrl+D	Display a logical printer.
Display Log	F10	Display log information about maintenance activity on this printer.
Filter	F3	List selected logical printers.
List	F8	List all logical printers.
New	Ctrl+N	Add a new logical printer.
Open	Ctrl+O	Modify a logical printer.
Rename	F2	Rename a logical printer. (*)

(\*) These commands cannot be used for DEFAULT printers.

## Listing All Logical Printers

 **To list all defined logical printers:**

1. In the object workspace, select the **Printers** folder.
2. Invoke the context menu and choose **List**.

All defined logical printers are listed in the content pane.

For each printer, the following information is displayed:

### Fields: Printer List

Field	Explanation
Printer	Name of the logical printer.
Authorization	Authorization used to access the logical printer. Possible values: <ul style="list-style-type: none"> <li>● ADMIN - Indicates that you are defined as administrator with owner authorization for the listed printers.</li> <li>● PUBLIC - All users are authorized for the printer.</li> <li>● <i>user ID</i> or <i>name of distribution list</i> - This user or the members of the distribution list are authorized for the printer.</li> </ul>
Description	Short description of the logical printer.
Physical	The name of the physical printer.
Status	The status of the physical printer: S = printer stopped; <i>blank</i> = printer started and active for printing.
Location	The location of the physical printer.

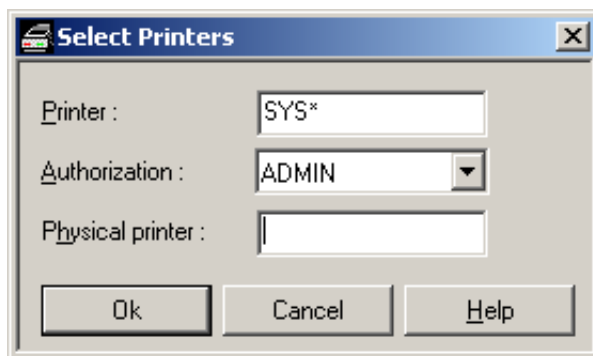
## Listing Selected Logical Printers

► To list defined logical printers according to selection criteria:

1. In the object workspace or in the printer list, select the **Printers** folder.
2. Invoke the context menu and choose **Filter**.

The **Select Printers** dialog appears in the content pane.

3. Enter selection criteria for the printers, for example:



4. Choose **OK**.

Now only defined logical printers which satisfy the selection criteria appear in the expanded **Printers** folder in the object workspace.

## Adding a New Logical Printer

- General Attributes
- Special Attributes

### ▶ To define a new logical printer:

1. Select the **Printers** folder in the object workspace and invoke the context menu.
2. Choose **New**.

The **New Logical Printer** window opens in the content pane. The **General Attributes** tab is displayed.

3. Enter your data as desired. The general attributes are described below.
4. To define special attributes for the printer, you select the **Special Attributes** tab. The special attributes are described below.
5. When you have finished, choose the **OK** button to save your data.

### General Attributes

Field	Explanation	
Name	If you are adding a logical printer, you must enter its ID before proceeding. If you are modifying an existing printer, this field is protected. The ID must be unique.	
Description	Enter a short description for the logical printer.	
Physical Printer	Name	Use the list box to select the ID for the physical printer where reports are to be printed.
	Location	The location of the physical printer appears here, when a printer has been selected. (output field)
Copies	Enter the number of copies to be printed.	
Priority	Enter the print priority. This is passed to the spooling system when using system printers, or used internally when referring to VTAM printers.	
Printer Exit	Member	Use the list box to select the name of the exit to be executed for each line before it is printed.
	Library	The name of the library where the printer exit is located. (output field)
Jobcards	Enter the job cards used when printing with a batch job. If you leave these lines blank, the specifications made for the Monitor Standard Definitions are used for printing with a batch job.	

## Special Attributes

Depending on the type of the physical printer, as determined by the Physical Printer specifications under *General Attributes* (see above), you can set the following special attributes for a logical printer:

- CMA-SPOOL Attributes
- Con-nect Attributes
- DISKMVS Attributes
- ECL 2.1.1 Attributes
- E-Mail Attributes
- NAF Attributes
- SYSPRBS2 Attributes
- SYSPRJES Attributes
- SYSPRPWR Attributes
- TAPEMVS Attributes
- TAPEVSE Attributes
- VTAM Attributes
- WINPM Attributes

### CMA-SPOOL Attributes

<b>Attribute</b>	<b>Explanation</b>
Account	Enter the account number to be used.
Chars	Enter the character table to be used.
Class	Enter the output class to be used for system printers.
System ID	Enter system affinity.
Fcb	Enter the FCB image that describes the length (and width - optional) of a page.
Formdef	Enter the name of the FORMDEF to be used.
Form	Enter the name of the form to be used.
Hold	Should the printout be held by CMA-SPOOL? Enter YES/NO).
Linect	Enter the maximum number of lines to be printed on a page.
Limit	Enter the maximum number of lines allowed.
Filename	Enter the name of the output file.
Pagedef	Enter the name of the PAGEDEF to be used.
Programmer	Enter the programmer's name.
Prmode	Enter PAGE to use page mode as PRMODE.
Retention	How long should the print file be retained after printing? Enter the retention period (in hours).
Room number	Enter the room number.
Trc	TRC (table reference characters). Enter YES/NO.
Writer	Enter the name of the NJE writer.

### Con-nect Attributes

<b>Attribute</b>	<b>Explanation</b>
DBID	Database ID of the Con-nect system file.
FNR	File number of the Con-nect system file.
Cabinet	Name of the Con-nect cabinet. You can leave this field blank. In this case, the document is created in the cabinet of the user who issued the printout.
Document name	Name of the Con-nect document. In this case, the document name is constructed from the report/bundle name, the run number of the object to be printed and the run number of the printout.
Document format	Enter the document format to be used: 0 = text document; 1 = Con-form document (default).
Description	Enter up to four lines of document description.
Keywords	Enter up to six keywords for the document.

**DISKMVS Attributes**

<b>Attribute</b>	<b>Explanation</b>
Dataset	Enter the dataset name to be used.
Member	Enter the member name to be used.
Dataclas	Enter the DATACLAS parameter. This corresponds to the DATACLAS JCL parameter.
Dcb	Enter the DCB parameter. This corresponds to the DCB JCL parameter.
Disp	Enter the Disposition parameter.
Expdt	Enter the EXPDT parameter. This corresponds to the EXPDT JCL parameter.
Like	Enter the LIKE parameter. This corresponds to the LIKE JCL parameter.
Lrecl	Enter the record length to be used (for records of variable length, this is the maximum record length + record length field).
Mgmtclas	Enter the MGMTCLAS parameter. This corresponds to the MGMTCLAS JCL parameter.
Msvgp	Enter the MSVGP parameter. This corresponds to the MSVGP JCL parameter.
Recfm	Enter the record format to be used. In addition, this entry determines whether the data are printed with ASA/machine code or without carriage control characters.
Retpd	Enter the RETPD parameter. This corresponds to the RETPD JCL parameter.
Space	Enter the SPACE parameter. This corresponds to the SPACE JCL parameter.
Storclas	Enter the STORCLAS parameter. This corresponds to the STORCLAS JCL parameter.
Unit	Enter the Unit type.
Volser	Enter the Volser where the dataset is located.
Work file	This entry is made automatically according to the record format (RECFM) used.

**ECL 2.1.1 Attributes**

Attribute	Explanation	
Service	Enter the name of the label in member SATSRV in library SYSSATU which identifies the set of attributes needed for client/server communication with the print server running under z/OS or Windows. To use different members specify <member.label>.	
Barcode	Enter the name of the BARCODE resource to be used.	
Cond. processing	Specifies the maximum nesting level for conditional processing. If it is AFP, this value is always 1. With PFM, the maximum value is 32767.	
Destination	Name of a logical destination as defined in ECL.	
Disposition	Hold	Hold before print.
	Keep	Keep after print.
	Delete	Delete after print.
Formdef	Enter the name of the FORMDEF resource if the output is to be formatted.	
Pagedef	Enter the name of the PAGEDEF resource if the output is to be formatted.	
Trc	Enter YES if your print file contains font indices.	
Trace	Enter YES to activate the trace facility. The trace output will be written to the ESY log.	

### E-Mail Attributes

Attribute	Explanation
Recipient	Enter up to 10 e-mail addresses to which to send the report. Enter the "at" sign "@" as "(a)".
Recipient-CC	Enter up to 10 e-mail addresses to which to send the report as "CC" (carbon copy). Enter the "at" sign "@" as "(a)".
From	This is the name which will appear as the sender of the e-mail.
Node	<p>This Entire System Server node will be used for sending. It can be different from the node the Entire Output Management monitor uses.</p> <p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1. If this field is left blank, the node number of the Entire Output Management monitor will be used. In this case, the monitor user ID (usually "NOMMON") must be enabled for "UNIX Services" in your security system (like RACF or ACF2).</li> <li>2. If the node number is different from the Entire Output Management monitor's number, any user ID that sends an e-mail is used for sending and must be enabled accordingly.</li> </ol>
Encrypt	In an NPR version above 321 you will be able to encrypt the e-mail message, if you enter "Y" here.
Subject	The subject of the e-mail to be sent.



**NAF Attributes**

<b>Attribute</b>	<b>Explanation</b>
Printer Profile	Enter the name of a Natural Advanced Facilities Logical Printer Profile (LPF). The LPF determines which printer is used. For further information, see the <i>Natural Advanced Facilities</i> documentation.
CC Table	Enter the PROFILE parameter. For further information, see the <i>Natural Advanced Facilities</i> documentation.
Forms	Enter the FORMS parameter. For further information, see the description of the DEFINE PRINTER statement in the <i>Natural</i> documentation.
Listname	Enter the NAME parameter. For further information, see the description of the DEFINE PRINTER statement in the <i>Natural</i> documentation.
Disposition	Enter the DISP parameter (DEL/HOLD/KEEP). For further information, see the description of the DEFINE PRINTER statement in the <i>Natural</i> documentation.

**SYSPRBS2 Attributes**

<b>Attribute</b>	<b>Explanation</b>
Orig. attributes	Should original print attributes be used? Enter YES/NO.
Chars-modification	Should all character set characteristics be used or only certain ones? Enter YES/NO.
Chars	Enter one or several character sets to be used for printing.
Class	Enter job class to be used for the SPOOLOUT job.
Control	Determines whether control characters specific to laser printers should be used.
Destination	Determines logical printer to be used.
Dia	Enter the Formuldia to be used.
Document-format	Specifies the type of the document contents.
Fob	Enter the Forms Overlay Buffer (FOB) for overlaying printed pages with text and pictures.
Form	Enter the type of form to be used.
Header	Determines whether a header line should be printed on each page.
Image	Enter the name of a parameter file containing LOOP-, FOB- and CHARS-POOL sets.
Lines	Enter the number of lines to be printed on a page.
Loop	Enter the name of the LOOP set to be loaded in the carriage information buffer of the printer.
Pagecc	Determines whether control characters should be evaluated.
Pname	Job name for the SPOOLOUT job.
Rotation	Allows page rotation for output on laser printers.
Rotation-loop	Enter the name of loop for output in landscape format.
Shift	Enter the number of columns by which the output text should be indented.
Space	Determines the number of line feeds or the type of carriage control characters contained.
Text	This is stored in the SPOOL Control Block (SCB) for the processing of system exits.
Transl.Table	Enter the code translation table to be activated.
Tray	Enter the number of the tray from which to extract paper for printing.

### **SYSPRJES Attributes**

Attribute	Explanation
Burst	Enter the BURST parameter. This corresponds to the BURST JCL parameter.
Chars	Enter one or more 4-byte character set names as in JCL.
Ckptline	Enter the maximum lines in a logical page. This corresponds to the CKPTLINE JCL parameter.
Ckptpage	Enter the number of logical pages to be printed before JES takes a checkpoint. This corresponds to the CKPTPAGE JCL parameter.
Ckptsec	Specify how many seconds of printing are to elapse between each checkpoint for the SYSOUT dataset. This corresponds to the CKPTSEC JCL parameter.
Class	Enter a one-character JES output class for the printout.
Compact	Enter the COMPACT parameter. This corresponds to the COMPACT JCL parameter.
Datack	Enter the DATAACK parameter. This corresponds to the DATAACK JCL parameter.
Dcb	Enter the DCB parameter. This corresponds to the DCB JCL parameter.
Destination	Enter the JES destination parameter.
Fcb	Enter the Forms Control Buffer. This corresponds to the FCB JCL parameter.
Flash	Enter the FLASH parameter. This corresponds to the FLASH JCL parameter.
Formdef	Enter the name of the library member that PSF uses in printing on a page-mode printer.
Forms	Enter the name of the form. This corresponds to the FORMS JCL parameter.
Index	Enter the INDEX parameter. This corresponds to the INDEX JCL parameter.
Lindex	Enter the LINDEX parameter. This corresponds to the LINDEX JCL parameter.
Lrecl	Enter the LRECL parameter. This corresponds to the LRECL JCL parameter.
Modify	Enter the MODIFY parameter. This corresponds to the MODIFY JCL parameter.
Pagedef	Enter the name of the library member that PSF uses in printing on a page-mode printer.
Prmode	Enter the PRMODE parameter. This corresponds to the PRMODE JCL parameter.
Recfm	Enter the RECFM parameter. This corresponds to the RECFM JCL parameter.
Trc	Enter the TRC parameter. This corresponds to the TRC JCL parameter.
Ucs	Enter the UCS parameter. This corresponds to the UCS JCL parameter.
Work file	This entry is made automatically according to the record format (RECFM) used.

### **SYSPRPWR Attributes**

<b>Attribute</b>	<b>Explanation</b>
Burst	Enter the BURST parameter. This corresponds to the BURST JCS parameter.
Chars	Enter one or more 4-byte character set names as in JCS.
Class	Enter a one-character POWER output class for the printout.
Cmpact	Enter the CMPACT parameter. This corresponds to the CMPACT JCS parameter.
Destination	Enter the POWER destination parameter.
Delt	Enter the DELT parameter. This corresponds to the DELT JCS parameter.
Disp	Enter the DISP parameter. This corresponds to the DISP JCS parameter.
Fcb	Enter the Forms Control Buffer. This corresponds to the FCB JCS parameter.
Flash	Enter the FLASH parameter. This corresponds to the FLASH JCS parameter.
Form	Enter the name of the form on which the Report or Bundle is to be printed. This corresponds to the FORM JCS parameter.
Jsep	Enter the JSEP parameter. This corresponds to the JSEP JCS parameter.
Modify	Enter the MODIFY parameter. This corresponds to the MODIFY JCS parameter.
Password	Enter the PWD parameter. This corresponds to the PWD JCS parameter.
Rbc	Enter the RBC parameter. This corresponds to the RBC JCS parameter.
Rbm	Enter the RBM parameter. This corresponds to the RBM JCS parameter.
Rbs	Enter the RBS parameter. This corresponds to the RBS JCS parameter.
Remote	Enter the REMOTE parameter. This corresponds to the REMOTE JCS parameter.
Sysid	Enter the SYSID parameter. This corresponds to the SYSID JCS parameter.
Ucs	Enter the UCS parameter. This corresponds to the UCS JCS parameter.
User	Enter the USER parameter. This corresponds to the USER JCS parameter.

### **TAPEMVS Attributes**

<b>Attribute</b>	<b>Explanation</b>
Dataset	Enter the dataset name to be used.
Disp	Enter the Disposition parameter.
Blksize	Enter the block size to be used.
Recfm	Enter the RECFM parameter. This corresponds to the RECFM JCL parameter.
Lrecl	Enter the record length to be used.
Dcb	Enter the DCB parameter. This corresponds to the DCB JCL parameter.
Label	Enter the LABEL parameter. This corresponds to the LABEL JCL parameter.
Unit	Enter the Unit type.
Volser	Enter the Volser where the dataset is located.
Work file	This entry is made automatically according to the record format (RECFM) used.
Expiration	Enter the retention period for the dataset.

### TAPEVSE Attributes

<b>Attribute</b>	<b>Explanation</b>
Dataset	Enter the dataset name to be used.
Volser	Enter the Volser where the dataset is located.
Unit	Enter the Unit type.
Disp	Enter the Disposition parameter.
Recfm	Enter the RECFM parameter. This corresponds to the RECFM JCL parameter.
Work file	This entry is made automatically according to the record format (RECFM) used.
Blksize	Enter the block size to be used.
Carriage control	Enter YES, if printing is to be done with carriage control. Enter NO, if not.
Expiration	Enter the retention period for the dataset.

### VTAM Attributes

<b>Attribute</b>	<b>Explanation</b>
Carriage control	Enter YES, if printing is to be done with carriage control. Enter NO, if not.
Form feed before	Enter the number of form feeds to be performed at the beginning of a printout.
Form feed after	Enter the number of form feeds to be performed at the end of a printout.
Trace	Enter YES, if you want a trace to be written by Entire System Server.
Logmode	Enter a special log mode, if desired.

## WINPM Attributes

Attribute	Explanation	
Service	Enter the name of the label in member SATSRV in library SYSSATU which identifies the set of attributes needed for client/server communication with the print server running under z/OS. To use different members, specify <member.label>.	
Barcode	Enter the name of the BARCODE resource to be used.	
Cond. processing	Specifies the maximum nesting level for conditional processing. If it is AFP, this value is always 1. With PFM, the maximum value is 32767.	
CR-Sequence	Enter the carriage return sequence.	
Destination	Enter the name of the destination spool queue.	
Device type	Enter the printer languages of your printer, for example, PCL4/PCL5.	
Disposition	Hold	Hold before print.
	Keep	Keep after print.
	Delete	Delete after print.
Form feed after	Enter the number of form feeds to be performed at the end of the output.	
Form feed before	Enter the number of form feeds to be performed at the beginning of the output.	
FF-Sequence	Enter the sequence for form feed.	
Frame	Enter the number of pages that make up a frame. Under Windows it is possible to divide a printout into several portions, so that the print manager can start printing while remaining portions are still being created. Control is also yielded to other tasks between each portion.	
LF-Sequence	Enter the sequence for line feed.	
Formdef	Enter the name of the FORMDEF resource, if the output is to be formatted.	
Pagedef	Enter the name of the PAGEDEF resource, if the output is to be formatted.	
Trc	Enter YES, if your print file contains font indices.	
Trace	Enter YES to activate the trace facility. The trace output will be written to the ESY log.	

## Modifying a Logical Printer

### To modify a defined logical printer:

1. Select the desired printer in the object workspace or in the bundle list.
2. Invoke the context menu and choose **Open**.

3. The logical printer definition is displayed, and you can make changes to it. The individual fields are described under *Adding a New Logical Printer*.
4. When you have finished making changes, choose the **OK** button to save your data.

## Displaying a Logical Printer

### ▶ To display a defined logical printer:

1. In the object workspace or in the printer list, select the desired printer.
2. Invoke the context menu and choose **Display**.

The definition of the logical printer is displayed. The individual fields are described under *Adding a New Logical Printer*.

## Renaming a Logical Printer

### ▶ To rename a logical printer:

1. In the object workspace or in the report list, select the desired printer.
2. Invoke the context menu and choose **Rename**.
3. Change the name of the selected printer, and press ENTER.

## Copying a Logical Printer

### ▶ To copy a logical printer:

1. In the object workspace or in the printers list, select the desired logical printer.
2. Invoke the context menu.

The **Copy** dialog appears.

3. Type the name of the target logical printer in the **To Printer** field provided and choose **OK**.

The new logical printer appears in the printers list.

## Deleting a Logical Printer

### ▶ To delete a logical printer:

1. In the object workspace or in the printer list, select the desired printer.
2. Invoke the context menu and choose **Delete**.

A dialog appears, asking you to confirm the deletion.

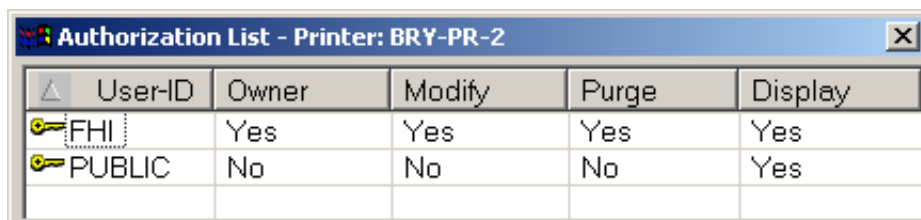
3. Choose **Yes** to delete the printer, or **No** to cancel the operation.

## Authorizing User Access to a Logical Printer

▶ To authorize user access to a logical printer:

1. In the object workspace or in the printer list, select the desired printer.
2. Invoke the context menu and choose **Authorization**.

The **Authorization List** appears:

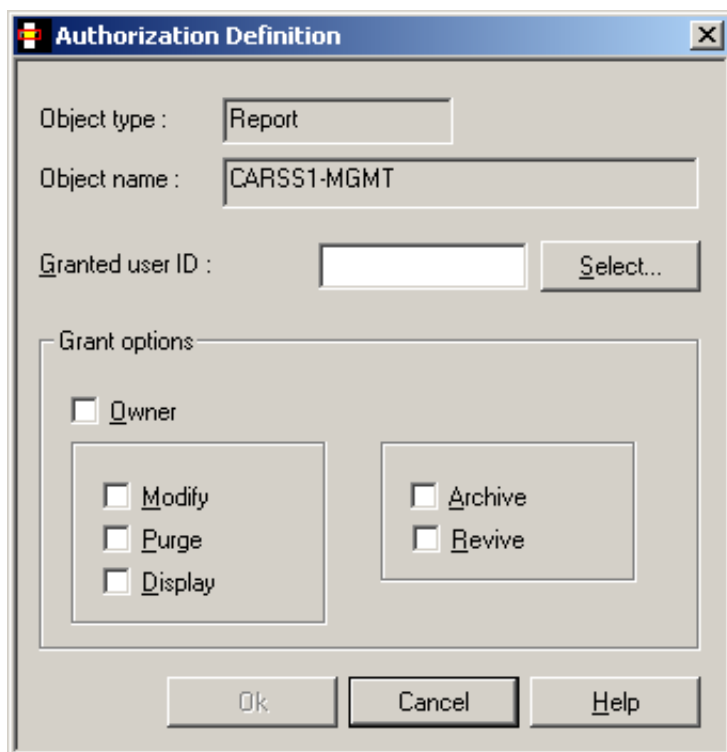


△ User-ID	Owner	Modify	Purge	Display
🔑 FHI	Yes	Yes	Yes	Yes
🔑 PUBLIC	No	No	No	Yes

It lists all users and user groups on distribution lists who are authorized for the printer. It also displays their authorization level.

3. Invoke the context menu for the dialog and select **New**.

The following dialog appears:



Object type :

Object name :

Granted user ID :

Grant options

Owner

Modify       Archive

Purge         Revive

Display



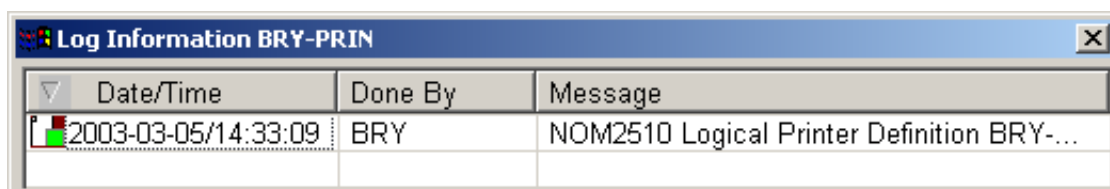
4. Enter data for the authorization. The fields are described under *Authorizing User Access to a Report Definition*.
5. When you are finished, choose **OK** to save your data.

## Displaying Log Information for a Logical Printer

### ▶ To display log information for a defined logical printer:

1. In the object workspace or in the printer list, select the desired printer.
2. Invoke the context menu and choose **Display Log**.

The following dialog appears:



Date/Time	Done By	Message
2003-03-05/14:33:09	BRY	NOM2510 Logical Printer Definition BRY-...

### ▶ To display more detailed log information:

1. Select an entry from the log information dialog and invoke the context menu.
2. Choose **Info**.

A detailed log message for the selected entry will be displayed.

## XML Printers

- Stylesheet in Report Definition
- Stylesheet Stored in SYSNOMU
- Combined Method

Physical (and logical) printers of type XML allow XML stylesheets to be merged with XML documents at print time. The output of an XML printer is always a dataset. On z/OS and compatible systems it is a disk file; on VSE it is a tape file; on OSD it is a print file. An XML printer has the same attributes as its equivalent dataset printer (DISKMVS, TAPEVSE or SYSPRBS2).

### Stylesheet in Report Definition

The stylesheet is resolved at print time as follows. If the document contains:

```
<?xml-stylesheet href="[file://EOM/*]"...>
```

the default stylesheet is taken from the definition of the report being printed. For example, if the report is defined with a stylesheet of `HTTP://SERVER1/MYSTYLE.XLS`, the document is adjusted at print time to contain:

```
<?xml-stylesheet href="[HTTP://SERVER1/MYSTYLE.XLS]"...>
```

## Stylesheet Stored in SYSNOMU

Stylesheets can also be stored as source members in SYSNOMU. In this case the document (or report definition) may specify something like:

```
<?xml-stylesheet href="[file://EOM/SYSNOMU/MYSTYLE]"...>
```

This print line is suppressed and the contents of MYSTYLE from library SYSNOMU are inserted in its place. This implies that, for this method of inserting a stylesheet, the `<?xml-stylesheet...>` must be on a line of its own.

## Combined Method

The two methods can be combined, so that the document itself refers to `file://EOM/*`, which instructs the print task to take the stylesheet URL from the report definition. The report definition then specifies `FILE://EOM/SYSNOMU/MYSTYLE`, which instructs the print task to suppress the `<?xml-stylesheet...>` and insert the contents of MYSTYLE.

Additionally, a printer exit can specify the stylesheet by inserting a record containing the URL of the stylesheet to be used. The printer exit may not specify `file://EOM/*` but it can specify `FILE://EOM/SYSNOMU/MYSTYLE`. The contents of any inserted stylesheet are not passed to the printer exit. No stylesheet interpretation is performed.