

Using Infoprint Manager Notifications- administrators

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Infoprint Manager can detect events (such as **job completed** or **destination needs attention**) as they occur, generate messages about those events, and deliver the messages to users who need the information. For example, users can receive messages about jobs they submit, operators can be notified about Infoprint objects that require their attention, and administrators can be notified if someone makes a configuration change. With notifications, you don't have to query for status of the objects in your system—you just receive messages when specific events occur so you can take care of them.

You can tailor who receives these messages and how they are delivered based on the **notification profile** that is set for a particular Infoprint object.

Understanding notification profiles

Most Infoprint objects (the server, actual destinations, logical destinations, queues, jobs, and default jobs) have **notification profiles** associated with them. A notification profile is composed of one or more *notification profile entries*. Each notification profile entry has three main components:

Event Identifiers

Which events cause messages to be sent. See “Event identifiers” on page 2 for more information.

Delivery method

How the messages are delivered. See “Delivery method and delivery address” on page 2 for more information.

Delivery address

Where the messages are sent. See “Delivery method and delivery address” on page 2 for more information.

In addition, a notification profile entry can include a comment (text that Infoprint will add to the general message text) and a locale (to set the language that the message will be sent in). Comments are optional. If you don't specify a locale, Infoprint delivers messages using the locale (language) that the user is running in.

Some objects only need one entry in their notification profiles. For example, when a person submits a job, he is probably the only one who needs to receive information about it, and he will probably be content to have all of the messages about that job delivered the same way.

For other objects, there are very good reasons to have multiple entries. For example:

- If operators manage printers from more than one workstation, you can create an entry for each workstation. That way, all of the messages go to all of the machines.
- If operators can address some messages (like **destination-needs-attention**), but an administrator needs to address others (like **object-deleted**), you can create an entry for each operator and one for the administrator. Messages are delivered to the person who can handle them.

- If an administrator likes to use Infoprint Manager Notifications while he's at work, and wants to keep a more permanent record of how often some events occur, he can set up two entries. One delivers messages to the Infoprint Manager Notifications client and one writes certain messages into a file that he can check periodically.

Event identifiers

The **event identifiers** component lists the Infoprint events that trigger notifications. You can find a full list of Infoprint notification events and their descriptions in Chapter 9 of the *Infoprint Manager: Reference*. In the descriptions, you will see what objects each event supports. If you add an event to an object that it does not support, no messages will ever be generated for that event. For example, you can add the **queue-backlogged** event to a notification profile entry for an actual destination, but **queue-backlogged** only supports the queue, job, and server objects. As a result, the actual destination notification profile will not generate any messages about that event.

That chapter also lists the Infoprint Manager *event classes*, or groups of related notification events. When you add event identifiers to a notification profile, you can add individual events, event classes, or a combination of the two.

Each type of Infoprint object has a default set of event identifiers. Refer to "Default notification profiles" on page 5 for a list of defaults for each object.

Delivery method and delivery address

The **delivery method** component shows how you want notification messages to be delivered. The **delivery method** and **delivery address** components are strongly related; the delivery method you choose determines the type of value you use for the delivery address.

In addition, delivery method and delivery address are the *keyed components* in notification profile entries; they are the two values that Infoprint Manager checks when you modify a notification profile. If the delivery method and delivery address that you specify match the delivery method and delivery address of an existing entry, Infoprint Manager updates that entry. If both values don't match any of the existing entries, Infoprint Manager adds a new entry to the profile.

There are various delivery methods defined for Infoprint objects. All methods are valid for all objects **except** for **job-log**; **job-log** is only valid for jobs. Table 1 on page 3 lists the delivery methods, along with descriptions and how to set the delivery address for each type. ¹

1. Two other delivery methods, **sapcb** and **sapconnect** exist, but they are only used internally in conjunction with the Infoprint Manager SAP Print Feature. You should never use either of those values in a notification profile entry.

Table 1. Infoprint Notification Delivery Method Characteristics

Delivery Method	Description	Delivery address
message Message is the default delivery method for all objects.	Sends a message to the Infoprint Manager notification server, where it waits for an Infoprint Manager Notifications client to pick it up. Once a message is picked up, it is deleted from the notification server; there are no further records of those messages.	The delivery address listed in the notification profile can be whatever you want it to be– a user id, office number, IP address, driver’s license number– as long as it is unique. In order to receive messages sent to that address, you must set the delivery address listed in the Settings dialog in the Infoprint Manager Notification client to the same value. The Infoprint Manager Notifications client will only pick up messages that specify an identical delivery address.
electronic-mail (synonyms: e-mail , email)	Sends an E-mail to the address listed in the delivery address, OR, for jobs submitted using Infoprint Select, to the Select message window. Refer to “Infoprint Select and notifications” on page 4 for more information. To use the e-mail delivery method, you must also set the smtp-server-host attribute on your Infoprint Manager server to the IP address or DNS hostname of the system that your SMTP mail server runs on.	The E-mail address that you want notification messages to be sent to. For example, kjones@printerco.com . If you submit jobs using Infoprint Select, this value is set for you.
exit	Doesn’t actually send a message. Instead, when the event specified in the event identifier occurs, Infoprint Manager runs an exit program or script. Refer to “Using the ‘exit’ delivery method” on page 5 for more information.	The full path to the notification exit program or script (with hard-coded arguments, if any).
file	Writes the message in the file you specify in the delivery address. If the file doesn’t exist, Infoprint Manager will create it. If the file does exist, Infoprint Manager will overwrite it the first time it writes a message. After that, messages are added to the end of the file.	The directory path and name of the file that you want to write your notification messages in. This file must reside on the same system as your Infoprint Manager server.
file-add-to	Adds the message to the end of the file you specify in the delivery address. If the file doesn’t exist, Infoprint Manager will create it.	The directory path and name of the file that you want to write your notification messages in. This file must reside on the same system as your Infoprint Manager server.

Table 1. Infoprint Notification Delivery Method Characteristics (continued)

Delivery Method	Description	Delivery address
job-log Only valid for jobs.	Writes messages into the job-log attribute of the job. To see the messages, issue the pdls command for the job-log attribute on the job you want to know about.	No value needed.
none	Does not send any notifications; turns notification off.	No value needed.

Infoprint Select and notifications

When you submit a print job using Infoprint Select, a default notification profile is sent with the job. That notification profile sets the event-identifiers to a default set of events and the delivery method to either **e-mail** (if you have the Select message window running) or to **none** (if you don't have it running). The Infoprint Select default notification profile overrides any notification settings you configure in a default job.

If you don't want to use the Select default notification profile, use the appropriate procedure below.

Windows NT

1. On the Windows system that Infoprint Select is installed on, right click on **My Computer** and select **Properties**.
2. In the System Properties window, click the **Environment** tab.
3. Click one of the variables listed under **System Variables** to signal that you want to create a system variable. The variable and its value will appear in the fields at the bottom of the dialog.
4. Clear the **Variable** and **Value** fields.
5. In the **Variable** field, type: `pdnotify` and in the **Value** field type: `override_select`.
6. Click **Set**.
7. Verify that `pdnotify` appears in the list of **System Variables** and not in the **User Variables**. If it appears in the list of User variables, delete it and start again from step 3.
8. Click **OK**.
9. Restart your system to make the changes take effect.

Windows 2000

1. On the Windows system that Infoprint Select is installed on, right click on **My Computer** and select **Properties**.
2. In the System Properties window, click the **Advanced** tab.
3. On the Advanced tab, click **Environment Variables**.
4. In the **System variables** box on the **Environment Variables** dialog, click **New**.
5. In the **Variable Name** field, type `pdnotify` and in the **Variable Value** field, type `override_select`.
6. Click **OK**.
7. Verify that `pdnotify` appears in the list of **System variables** and not in the **User variables**. If it appears in the list of User variables, delete it and start again from step 4.

8. Click **OK** in the **Environment Variables** dialog.
9. Click **OK** in the System Properties window.
10. Restart your system to make the changes take effect.

Using the 'exit' delivery method

The **exit** delivery method allows you to set up automatic responses to system events beyond just sending a message. When you set the delivery method for a given event to **exit**, you use the delivery address to specify the explicit path to a script or program on your system. Whenever that event occurs, Infoprint Manager runs the script or program you specify.

For example, if the Infoprint Manager server runs low on disk space, the **disk-space-low** event generates a message for the system administrator. The administrator then has to do something to clean up the disk so Infoprint Manager can continue to run effectively. However, using the **exit** delivery method can automate that process by launching a "disk clean up" script. The administrator can still receive the message, but will know that the script is already working on the problem.

If you are using the Print Optimizer DSS, Infoprint Manager provides a sample script called **poexitcleanup** that you can use with the **exit** delivery method. The script demonstrates one way that you can automate cleaning up disk space in the Print Optimizer resource filesystem after the **disk-space-low** event occurs.

By default, when you use the exit delivery method, Infoprint Manager only passes two values along to the script or program: the message number of the event that occurred and the text of the message. As a result, the command line that the exit delivery method executes is composed of the path that you specified in the delivery address, the last three digits of the message number, and the text of the message.

Therefore, if you create a notification profile entry for the **job-completed** event, setting the delivery method to exit and the delivery address to `c:\Infoprint\exits\myscript`, when a job finishes printing, Infoprint Manager will generate and execute a command line similar to this one:

```
c:\Infoprint\exits\myscript 280 "5010-280 Finished processing job ofc, Job 20 (3520800004)."
```

The scripts or programs you write may require other information, such as the destination name or the printer model. To pass those values, you can include them in the delivery address of the notification profile entry; they will be added to the end of the command line when Infoprint Manager creates it.

Default notification profiles

By default, the person who creates an object (server, destination, queue, job) receives the notification messages about that object. The default notification profile settings provide information such as object status, error conditions, or configuration changes. Some of these events require the person managing the object to intervene; for example, someone may need to clear a paper jam.

By default, the events listed in the following table generate messages for the corresponding objects. These messages are delivered to the user who created the object: job submitters receive messages about their print jobs; the administrator receives messages about destinations and servers that he or she created. The default delivery method is **message**, so the notifications are sent to the Infoprint

Manager Notification client on the system that the person used to create the object.

Table 2. Default notification profile settings

Object	Events
Actual destination	destination-needs-administrator destination-needs-attention destination-needs-operator destination-timed-out object-cleaned object-deleted
Default Job	No defaults set. Refer to "Using notification profiles with default jobs" for more information.
Job	destination-needs-attention destination-needs-operator destinations-not-ready-for-job document-aborted-by-destination document-aborted-by-server document-cancelled-at-destination job-aborted-by-server job-cancelled-by-operator job-cannot-be-scheduled job-completed past-discard-time
Logical destination	object-cleaned object-deleted
Queue	object-cleaned object-deleted queue-backlogged
Server	internal-server-error low-on-memory memory-exhausted object-cleaned object-deleted out-of-disk-space out-of-dpf-haids out-of-dpf-job-numbers out-of-dpf-raids sapcbd-down sapconnect-down server-shutdown-complete

Determining how much notification administrators, operators, and job submitters require takes some planning and, as you familiarize yourself with Infoprint, you should discover when you require more or less notification. You can start by using the defaults and see how many and what kind of messages you receive. If you find that you need more or less notification, or if you want to modify which users receive notifications, or if you want messages to be sent using a different delivery method, you can change the notification profiles.

Using notification profiles with default jobs

When someone submits a print job, Infoprint Manager sends messages about that job based on a default notification profile. As a result, the delivery method is **message**, the delivery address is "the user ID of the person who submitted the job @ the address of the system the job was submitted from," and the event identifiers

are those listed in Table 2 on page 6. (If you submit jobs using Infoprint Select, the default notification profile is different. Refer to “Infoprint Select and notifications” on page 4 for additional information.)

If you want to change the settings in the default notification profile, you can create a notification profile on a default job. There are several things to keep in mind when you set up a notification profile on a default job:

- You can only set one default job on each logical destination. As a result, all of the jobs will use the same notification profile.
- If you set a delivery address in the notification profile for the default job, all messages will go to that address. However, if you leave the delivery address blank, Infoprint Manager will fill it in with the address that the job was submitted from (you can't specify this address; it is sent with the job). This option only works with the **message** and **e-mail** delivery methods and is the only time that the notification profiles are merged.
- If you submit a job with an explicit notification profile (for example, by including the **notification-profile** attribute when you submit a job using **pdpr**), that profile overrides the one set in the default job.

Note: If you submit jobs using Infoprint Select, an explicit notification profile is sent with every job. If you want to use a notification profile on a default job with Infoprint Select, refer to “Infoprint Select and notifications” on page 4 for information about overriding Select notifications.

Changing notification profiles

For jobs, default jobs, server, and actual destinations

You can use the properties notebooks in the Infoprint Manager Administration GUI to change notification profiles for jobs, default jobs, servers, and actual destinations. Open the properties notebook and click the **Notification** tab for an actual destination, a job, or a default job. For a server, click the **Other** tab. On the page that opens, you can see the notification profile entries that already exist, including:

- How messages about that object are delivered
- Who they are sent to
- What events generate messages
- Any comments that are included with the messages

Use the **Add**, **Modify**, and **Delete** buttons to make changes to the notification profile. Refer to the online help for the Infoprint Manager Administration GUI for additional information. You can also change notification for jobs in the Infoprint Manager Operations GUI.

Note: If you change the delivery method, make sure you change the delivery address appropriately.

For logical destinations and queues

The only way to change a notification profile for a queue or a logical destination is to use the **pdset** command. The procedures below provide examples of some common modifications you may want to make. You can use these procedures to change the notification profiles for other Infoprint objects as well, but you may find it easier to use the properties notebooks in the Infoprint Manager Administration GUI.

This procedure describes how to modify notification profiles by:

- “Adding or modifying events or users in a notification profile” on page 9
- “Removing users from a notification profile” on page 10
- “Changing the delivery method” on page 11

If you need to change other parts of a notification profile, refer to the *Infoprint Manager: Reference* for information on the **pdset** command and the **notification-profile** attribute.

Important: When you modify a notification profile, Infoprint Manager compares the new delivery method and delivery address to the delivery methods and delivery addresses in the existing entries and behaves accordingly:

- If you specify both of the values and both match the values in an existing entry, the modification replaces that entry.
- If you only specify one of the values, Infoprint Manager fills in the other value with the default values. Then, it checks to see if any of the existing entries match that combination. If they match, Infoprint Manager replaces that entry. If they don't match, Infoprint Manager creates a new entry.
- If you specify both values but only one matches, Infoprint Manager creates a new entry.
- If you specify both values and neither one matches, Infoprint Manager creates a new entry.

When you delete a notification profile entry, the delivery method and delivery address in your command must match those in an existing entry exactly.

Viewing an existing notification profile

If you want to see what values are set for a notification profile, follow these steps.

1. Open a DOS window on the computer that your Infoprint Manager server is installed on. On Windows NT systems, click the Windows **Start** button and select **Program** —> **Command Prompt**. On Windows 2000 systems, click the Windows **Start** button and select **Program** —> **Accessories** —> **Command Prompt**.

2. Type the following command. Fill in the values for the italicized items as defined below.

```
pdls -c Type of Infoprint object -r notification-profile Objectname
```

Type of Infoprint object

What type of object you want to perform this command on, not the specific object. For example, type **destination** not **printer1-ld**.

Objectname

The name of the destination or queue that this notification profile refers to.

3. Press **Enter**.

The notification profile will be displayed.

Note: If you have messages about a particular object sent to more than one person, the notification profile will display multiple entries, one for each person.

Adding or modifying events or users in a notification profile

Follow these steps to add or remove events in the notification profile for a particular delivery address, or to add another entry to the notification profile, so that messages will be sent to another address as well.

1. Open a DOS window on the computer that your Infoprint Manager server is installed on. On Windows NT systems, click the Windows **Start** button and select **Program** —> **Command Prompt**. On Windows 2000 systems, click the Windows **Start** button and select **Program** —> **Accessories** —> **Command Prompt**.
2. Type the following command. Fill in the values for the italicized items as defined below.

```
pdset -c Type of Infoprint object -x "notification-profile+={event-  
identifiers= event(s) delivery-method= method delivery-  
address="address"}" Objectname
```

Type of Infoprint object

What type of object you want to perform this command on, not the specific object. Type **destination**, **queue**, **job**, or **server**.

event-identifiers

The events that cause Infoprint Manager to send a message. You can have messages sent for any of the events that are listed in the events-supported attribute for the server. Refer to the *Infoprint Manager: Reference*— chapter 7, section *Attributes for Servers: events-supported*, for a list of these values. Not all events support all objects. Refer to chapter 9 in the *Infoprint Manager: Reference* for lists of what objects each event supports.

Note: You must type all of the events for this object that you want the user you specify in the delivery address to receive, even if they already appear in the notification profile. Any events that you do not type will not be listed in the notification profile.

delivery-method

How you want messages to be sent. Refer to Table 1 on page 3 for information about the various delivery methods.

delivery-address

Where you want to have messages sent. Refer to Table 1 on page 3 for information about what kinds of delivery address value to use with each delivery method. Enclose the value in double quotes.

Note: You cannot specify more than one delivery address here. If you want another user to receive messages about the same (or different) events, finish this procedure, then enter the command again with that user's delivery address.

Objectname

The name of the destination or queue that this notification profile refers to.

3. Press **Enter**.
4. Repeat the process for other users and objects.

Example: The default notification profile for queues is set to send you messages when the **queue-backlogged**, **object-cleaned**, and **object-deleted** events occur. You need to change the notification profile for the print queue **printer1-q** so that you receive messages when the **queue-no-longer-backlogged** and **queue-state-changed**

events occur as well. Your backup person does not currently receive any messages about queues, but needs to receive all of the same messages you do.

Issue this command to change your notification profile. Remember to list the event-identifiers for **all** of the events that you want this user to receive notifications about. This list of event-identifiers replaces the existing list entirely.

```
pdset -c queue -x "notification-profile+={event-identifiers=object-cleaned
object-deleted queue-backlogged queue-no-longer-backlogged
queue-state-changed delivery-address="administrator@mydesk.office.com"}"
printer1-q
```

Then, issue this command to have the **same** queue messages sent to your backup person.

```
pdset -c queue -x "notification-profile+={event-identifiers=object-cleaned
object-deleted queue-backlogged queue-no-longer-backlogged
queue-state-changed delivery-address="backup@hisdesk.office.com"}"
printer1-q
```

Use the “Viewing an existing notification profile” on page 8 procedure to make sure the changes took effect.

Removing users from a notification profile

Follow these steps to remove an entire entry from a notification profile.

1. Open a DOS window on the computer that your Infoprint Manager server is installed on. On Windows NT systems, click the Windows **Start** button and select **Program** —> **Command Prompt**. On Windows 2000 systems, click the Windows **Start** button and select **Program** —> **Accessories** —> **Command Prompt**.
2. Use the “Viewing an existing notification profile” on page 8 procedure to find the entry you want to remove.
3. Type the following command. Type the correct **delivery-method** and the **delivery-address** exactly as it is displayed for the entry that you want to remove.

```
pdset -c Type of Infoprint object -x "notification-profile-={delivery-
method=electronic-mail or message delivery-address="address"}"Objectname
```
4. Press **Enter**.
5. Use the “Viewing an existing notification profile” on page 8 procedure to verify that the entry has been removed.
6. Repeat the process for other entries.

Example: You and two other people currently receive messages about the logical destination **printer1-ld**. You don’t want to receive them any longer. You view the notification profile, and see these three entries:

```
printer1-ld: notification-profile=

{event-identifiers = object-cleaned object-deleted delivery-method = message
delivery-address = "admin@desk1.office.com" locale = en_US}

{event-identifiers = object-cleaned object-deleted delivery-method = message
delivery-address = "helpdesk@desk2.office.com" locale = en_US}

{event-identifiers = object-cleaned object-deleted delivery-method = message
delivery-address = "backup@desk3.office.com" locale = en_US}
```

Issue this command to remove your entry from the notification profile.

```
pdset -c destination -x "notification-profile={delivery-method=message
delivery-address = "admin@desk1.office.com"}" printer1-ld
```

Note: If you display the notification profile to verify that the entry has been removed and find that it has not been removed, issue the command again, but this time instead of only specifying the **delivery-address**, type the entire notification profile exactly as it appears.

Changing the delivery method

You can choose to receive your notification messages in a variety of ways, as listed in Table 1 on page 3. Follow these steps to change the delivery method from the default to some other value.

1. Open a DOS window on the computer that your Infoprint Manager server is installed on. On Windows NT systems, click the Windows **Start** button and select **Program** —> **Command Prompt**. On Windows 2000 systems, click the Windows **Start** button and select **Program** —> **Accessories** —> **Command Prompt**.

2. Use the “Viewing an existing notification profile” on page 8 procedure to find the entry you want to change.

3. Type the following command. Fill in the values for the italicized items exactly as they appear in the entry you want to change. Replace the **delivery-method** and **delivery-address** values as specified in Table 1 on page 3.

```
pdset -c Type of Infoprint object -x "notification-profile+={event-
identifiers=event(s) delivery-method=method delivery-address="address"
locale=yourlocale}"Objectname
```

4. Press **Enter**.

5. Use the “Viewing an existing notification profile” on page 8 procedure to verify that the entry was added.

6. Follow the procedure for removing a user to remove the old entry.

Example: You want to receive your messages about **printer1-q** in your E-mail instead of through Infoprint Manager Notifications. You view the notification profile, and see this entry:

```
printer1-q: notification-profile={event-identifiers = object-cleaned
object-deleted queue-backlogged delivery-method = message delivery-address
= "admin@desk1.office.com" locale = en_US}
```

Issue this command to add another entry to the notification profile with a different delivery method and delivery address.

```
pdset -c queue -x "notification-profile+={event-identifiers=object-cleaned
object-deleted queue-backlogged delivery-method=electronic-mail
delivery-address="admin@mycompany.com" locale=en_US}" printer1-q
```

Then view the notification profile again and see two entries:

```
printer1-q: notification-profile= {event-identifiers = object-cleaned
object-deleted queue-backlogged delivery-method = message delivery-address
= "admin@desk1.office.com" locale = en_US} {event-identifiers =
object-cleaned object-deleted queue-backlogged delivery-method =
electronic-mail delivery-address = "admin@mycompany.com" locale = en_US}
```

Follow the procedure for removing a user to delete the entry that would send messages to Infoprint Manager Notifications.

Getting help for notification messages

If you receive a notification message that you don't understand, Infoprint Manager provides a way to get more information about the situation. In some cases, the explanation even suggests some things you can do to resolve the problem.

To see the full text of an error message, open the Management Console and select **Help**—> **Message Help**. Type the message code in the fields at the top of the Message Help dialog, and click **OK**.

Other notification methods

Notify-operator attribute

The **notify-operator** attribute is a scaled-down version of a notification profile. It can only be set on Infoprint Manager queues and actual destinations and can only use the **e-mail** and **message** delivery methods. In addition, it only sends messages when one of the following events occur.

1. A job is added to a queue.
2. An actual destination starts processing a job.
3. An actual destination finishes processing a job.

The syntax of the **notify-operator** attribute is:

delivery-method:delivery-address

Refer to Table 1 on page 3 for descriptions of the e-mail and message delivery methods and their corresponding delivery addresses. By default, the notify-operator attribute is set to **message:your user ID@your node** when you create an actual destination or a queue. To change the value for an actual destination, you can use the **Notification** tab of the properties notebook. To change the value for a queue, use the **pdset** command.

The messages that the notify-operator attribute delivers are not standard error messages like the ones you receive when you use a full notification profile. Instead, you write the messages that you want to send and specify them as attributes of jobs when you submit them.

Note: You must either specify those attributes in the command when you submit the job or set the text in the job and document defaults for the appropriate logical destination.

The job attributes that you use to specify these messages are the following.

- **job-message-to-operator**
The message that Infoprint Manager sends when it adds a job to the queue.
- **job-start-message**
The message that Infoprint Manager sends when the job starts processing.
- **job-end-message**
The message that Infoprint Manager sends when the job finishes processing.

You can type the text for all three of these messages in the appropriate field on the **Job Notification** tab of the properties notebook for a job or a default job.

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| In addition, you can use the **job-start-message** attribute in conjunction with the
| **job-start-wait** attribute. If you set the **job-start-wait** attribute on a job (or in a
| default job) to **true**, the actual destination receives the job and sends the job-start
| message. Then, it pauses the actual destination until the operator intervenes. This
| function is useful when different jobs need to be printed on different types of
| paper. Operators don't need to manually pause the actual destination to change
| paper between jobs; Infoprint Manager does it automatically. Once the printer is
| ready, the operator resumes the actual destination and the job prints.

| To use the **job-start-wait** attribute, you must set it to **yes** on the job or default job.
| You can specify the attribute in the command when you submit a print job or set it
| on the **Job Notification** tab of the properties notebook for default jobs.

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