



# MarkMagic

## ***MARKMAGIC***

Bar Code Labels, RFID Tags, and Electronic Forms Software for IBM System i

```
Work with MarkMagic Print Monitor
Monitor Status . . . . . : Started by QSYSOPR 01/12/06 13:38:01
Position to monitor . . . . . _____

Type options, press Enter.
 2=Change  3=Copy   4=Delete  5=Display  10=Start  11=End

Add MarkMagic Print Monitor

Type choices, press Enter.

Monitor name . . . . . TUTORIAL      Name
Text description . . . . . Monitor For Tutorial

F3=Exit    F5=Refresh  F9=Cmd line  F12=Cancel

F3=Exit    F5=Refresh  F6=Add      F8=Active Job  F9 Cmd line
F10=Start print monitor  F11=End print monitor  F12=Cancel
```

### Tutorial: Print Monitor Add-on Option



**We Identify with success.**

## **Welcome**

Welcome to Part 4 of the CYBRA Corp. tutorials! This tutorial will introduce you to the MarkMagic Print Monitor. A brief explanation of MarkMagic Jobs is also provided if you are not familiar with that aspect of our software. There will not be any JMagic steps in this tutorial, due to the fact that the Print Monitor is only configurable through the MarkMagic native System i interfaces.

### **Before we begin we are assuming:**

1. You have completed the “Basic Concepts” and “Intermediate Concepts” tutorials and/or understand what was introduced. (Creating formats, creating variable text and barcode fields, printing from label files and spooled files, etc.)
2. You have a printer available at your location (thermal label or a laser printer) that is configured for printing on the System i server.

### **In this tutorial, you will learn:**

1. What a MarkMagic Job is and why you would want to create jobs.
2. What the MarkMagic Print Monitor is and why you would want to use it.
3. How to create and modify individual print monitors that are tied to a MarkMagic jobs.
4. How to start and end the Print Monitor subsystem and the individual monitors.
5. How to “trigger” your monitor and receive printed output from your desired printer.

You will be printing a format that retrieves data from a held spooled file. This tutorial will use the format created from the completed Intermediate Concepts tutorial 2B: “*Variable Data Retrieved From a Spooled File*”. If you have not completed that tutorial, we recommend that you do. If you feel comfortable with creating a simple format that retrieves data from a spooled file, please do so and use it for this tutorial. Just replace the format name and print device where necessary.

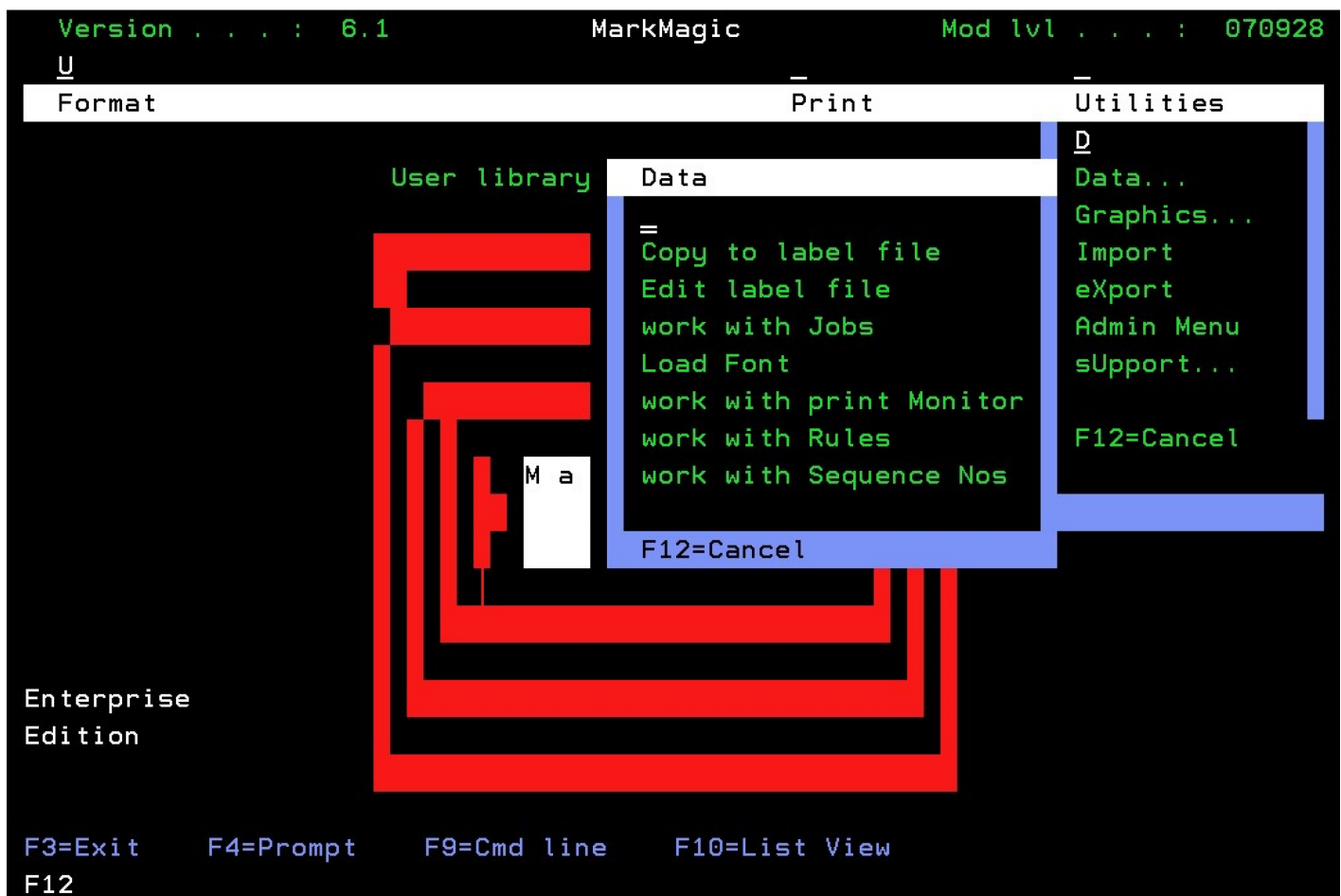
The Print Monitor eliminates programming for automatic MarkMagic printing. New spooled files added to a queue or a record added to a database file will automatically trigger an existing MarkMagic Job to print labels or forms. With this in mind, the first step in using the Print Monitor is to create a MarkMagic Job that will be used by the Print Monitor.

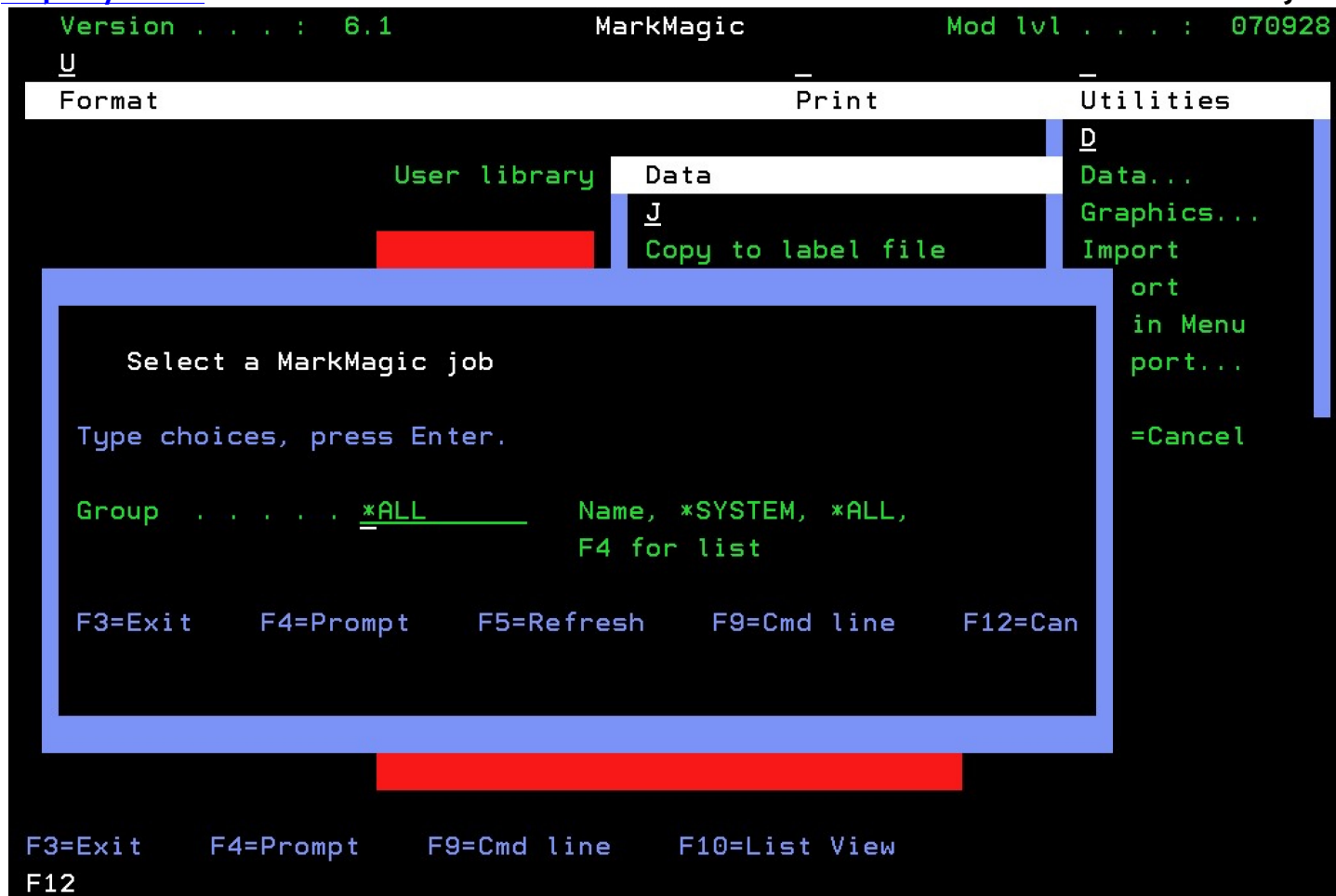
This tutorial assumes that you have created and are using your format in the MRKMAGDTA library. Also, jobs and monitors can be created in any user library, so you must be careful and note where you have monitors and jobs stored to keep things orderly.

## Mark Magic Jobs: An Introduction

MarkMagic Jobs let a user predefine individual print jobs that can copy data from a production file to the label file, edit data in the label file, and print the label file. These jobs can be defined to display only the parameters that are required by the operator, and can be organized by job groups and/or user libraries. The MarkMagic User Guide describes, in much detail, how to create jobs, what each parameter means, and how to use jobs in production and in your programming, but for this tutorial, we will only cover what is needed to successfully setup a job to be used by the MarkMagic Print Monitor.

To create a job, from the MarkMagic main menu, choose **U** for *Utilities*, then **D** for *Data*, and finally **J** for *work with Jobs*.





Leave **\*ALL** and press ENTER to view jobs from all of the available groups. If you are running MarkMagic out of the MRKMAGDTA user library, you may already see a list of jobs. These are jobs that came bundled with MarkMagic. You will create your own job, however.



Work with MarkMagic Jobs

Position to group . . . . . \_\_\_\_\_  
 Position to job . . . . . \_\_\_\_\_

Type options, press Enter.

2=Change	3=Copy	4=Delete	5=Display
6=Run	7=Rename	8=Warnings	

Opt	Group	Job	Description	Type	C E P Chg date
—	DEMOS	AFPENVELOP	Laser AFP: Print a small envelope	Y Y	05/27/99
—	DEMOS	AFPFNT	Laser AFP: Basic Text Font Samples	Y	01/22/04
—	DEMOS	AFPLOGO	Laser AFP: CYBRA Logo Windows file wit	Y	09/18/02
—	DEMOS	AFPNTR	Laser AFP: Nutrition Label Samples	Y	05/27/99
—	DEMOS	FAXCOVER	Laser AFP: Edit and print a fax cover	Y Y	06/04/04
—	DEMOS	FAXCOVER2	Laser AFP: Fax Cover Sheet (BLANK)	Y	05/27/99
—	DEMOS	FAXCOVER3	Laser AFP: Fax Cover Sheet (BLANK)	Y	05/20/04
—	DEMOS	FAXCOVER4	Laser AFP: Fax Cover Sheet (BLANK) Spo	Y	05/20/04
—	DEMOS	FAXCOVER5	Laser AFP: Fax Cover Sheet (BLANK) Spo	Y	05/20/04
—	DEMOS	HPADDRLBL	Laser HP: Address Label Avery 5160 3 x	Y	05/28/99

More...

F3=Exit	F5=Refresh	F6=Create	F9=Cmd line
F10=View	F11=Warnings	F12=Cancel	F14=Overrides

Press **F6** to add a new job. The *Add a Job* window appears.

Add Job

Type choices, press Enter.

Group job name . . . . . MONITOR Name, \*SYSTEM, F4 for list  
 Description . . . . . Monitor Jobs

F3=Exit    F4=Prompt    F5=Refresh    F9=Cmd line    F12=Cancel

Creating a job group helps to organize your jobs. Type **MONITOR** for the *Group job name* and type **Monitor Jobs** for the *Description*. If you were to create more jobs for use with the monitor, you could add them to the MONITOR group. Press ENTER to proceed to the *Add a Job* screen.

```

Add Job

Group . . . . . : MONITOR

Type choices, press Enter.

Job name . . . . . MONJOB
Description . . . . . Print Monitor Tutorial Job

User program . . . . . *NONE      Name, *NONE, F4 for list
Library . . . . . *LIBL          Name, *LIBL, *USRLIB, F4 list
Copy file . . . . . N           Y=Yes, N=No
Edit file . . . . . N           Y=Yes, N=No
Print file . . . . . Y           Y=Yes, N=No

Retrieve values . . . . . *LAST    *LAST, *NEW, User id, F4 list
Job mode . . . . . I             I=Interactive, B=Batch
Job run priority . . . . . *DFT    11-99, *DFT

F3=Exit   F4=Prompt   F5=Refresh   F9=Cmd line   F12=Cancel

```

This is where you choose the job's name, its description and whether or not the job will have a copy step, an edit step, and/or a print step. Name the job **MONJOB** and give it a description that will help identify the job. Since you will be printing straight from a spooled file, there will be no Copy step or Edit step (these are for label files), so type **N** for both of them. Type a **Y** for *Print file*. Everything else can be left with their default values. Press ENTER twice to create your job. You will be brought to the familiar *Print a Label File* command.

```

Print a Label File (PRTLBLF2)

Type choices, press Enter.

Label file . . . . . > *SPOOLFILE      Name, *NONE, *DTAQ...
Library . . . . . > *LIBL                Name, *LIBL
Label file member . . . . . > *FIRST       Name, *FIRST
Spooled file . . . . . QSYSPRT          Name
Job name . . . . . *                    Name, *
User . . . . . _____                Name
Number . . . . . _____              000000-999999
Spooled file number . . . . . *ONLY      1-999999, *ONLY, *LAST
Format name . . . . . > LEARNXXX3        Name, *FILE, F4 for list
Printer device . . . . . > _____      Name, *JOB, F4 for list
Form type . . . . . > '*STD'              Character value, *STD
Spooled printer output . . . . . > *YES    *YES, *NO
Spooled file name . . . . . > *FMT        Character value, *PRTF, *FMT
Quantity . . . . . > *DEFAULT           1-9999, *DEFAULT
Printer type . . . . . > HPPCL5          Name, F4 for printer list

More...

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

The command will recall the parameters used the last time the PRTLBLF command was issued by your User ID. Some of the parameters might be correct, such as the printer device, but in any case, you will need to make some changes.

Since the job will be printing a spooled file, type **\*SPOOLFILE** for the *Label file* parameter. The name of the spooled file that this job will be printing is going to be **QSYSPRT**, so type that for *Spooled file*. For *Job name*, type an asterisk (\*) and leave the *User* and *Number* blank. This will allow the job to print using spooled files created by any job or user. Also, set the *Spooled file number* parameter to **\*LAST**. This will allow the Print Monitor to pass the correct spooled file number to the job for printing.

Since we are using the form created by the Intermediate Concepts tutorial 2B, type **LEARNXXX3** for the format name (where XXX are your initials). The printer type is going to be **HPPCL5**. The only parameter specific to your system is going to be the *Printer device* or *Spooled output queue* parameter, so set those accordingly so the job knows where to print the forms. Lastly, please make sure the value for *User library name* is correct. If you are using a custom user library, type that in that field. If you are using the default MRKMAGDTA library, leave it as **\*NONE**. At this point, the print step is configured correctly, so press ENTER. You will be brought to the *Enter Parameter Attributes* window.

```

Enter Parameter Attributes (PRTLBLEF)
Group . . . . : MONITOR

Type choices, press Enter.

MarkMagic job . . . : MONJOB
Label file . . . . . : *SPOOLFILE  1  1=Prompt
Library . . . . . : *LIBL  1  2=Display only
Label file member . . . . . : *FIRST  1  3=Nondisplay
Spooled file . . . . . : QSYSPRT  1
Job name . . . . . :  1
Spooled file number . . . . . : *ONLY  1
Format name . . . . . : LEARNXXX3  1
Printer device . . . . . :  1
Form type . . . . . : *STD  1
Spooled printer output . . . . . : *YES  1
Spooled file name . . . . . : *FMT  1
Quantity . . . . . : *DFT  1
Printer type . . . . . : HPPCL5  1
Print from record number . . . . . : *START  1
Print to record number . . . . . : *END  1
Print from record key value . . . . . :  1

More...

F3=Exit  F5=Refresh  F9=Cmd line  F12=Cancel  F15=Set Attr

```

This is where you pick which parameters will be visible to or changeable by the user when the job is ran. Since this job will be run in the background by the Print Monitor, we will want to set each one to 3. The quickest way to do this is to press **F15** twice. Press ENTER to create your new job.

## Work with MarkMagic Jobs

Position to group . . . . . \_\_\_\_\_  
 Position to job . . . . . \_\_\_\_\_

Type options, press Enter.

2=Change      3=Copy      4=Delete      5=Display  
 6=Run      7=Rename      8=Warnings

Opt	Group	Job	Description	Type			Chg date
				C	E	P	
—	HENRY	RACELABEL2	Car Race Label	Y	Y		04/15/02
—	HENRY	TESTCONTRO	test control fields Y/N	Y			02/24/03
—	HR	A1	PRINT ITEM LABELS BEHIND SHIPPING	Y	Y		01/28/04
—	HR	TB	test batch	Y	Y		01/29/04
—	LABCONCO	STATEMENTS	Print Statements on Ray's Laser in Acc	Y			04/18/05
—	MAGESH	MAGESH	Manhattan Zebra High Memory	Y			04/29/03
—	MONITOR	ACTION	Print opt 6 on TA	Y			10/13/05
—	MONITOR	MONJOB	Print Monitor Tutorial Job	Y			03/03/06
—	MULTIDEMO	DATAMAX	Datamax I-Class	Y			11/15/04
—	MULTIDEMO	DATAMXTES	Datamax I-Class	Y			12/22/05

More...

F3=Exit      F5=Refresh      F6=Create      F9=Cmd line  
 F10=View      F11=Warnings      F12=Cancel      F14=Overrides

Press **F12** to return to the MarkMagic main menu. It is now time to create a monitor that will be tied to the job that you just created.



Since you will be using the new **STATEMENTS** program shipped with MarkMagic, there is no need to guess what queue the spool file will be created in. The program will put the QSYSPRT statement spoolfile in our new **MMEXQ** found in library **MMEXAMPLES**. This new output queue comes shipped with MarkMagic.


```
Version . . . : 6.1                MarkMagic                Mod lvl . . . : 070928
```

---

```
Format                                Print                        Utilities
```

---

```
User library . . . : MRKMAGDTA_
```



Mark Magic 6  
by CYBRA

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```
Command
```

```
==> call statements_
```

```
F4=Prompt   F9=Retrieve   F12=Cancel
```

Next, just to make sure that it was created correctly, type **WRKOUTQ OUTQ(MMEXAMPLES/MMEXQ)** and press Enter to see the spoolfiles in MMEXQ.

```
Work with Output Queue

Queue:  MMEXQ      Library:  MMEXAMPLES      Status:  RLS

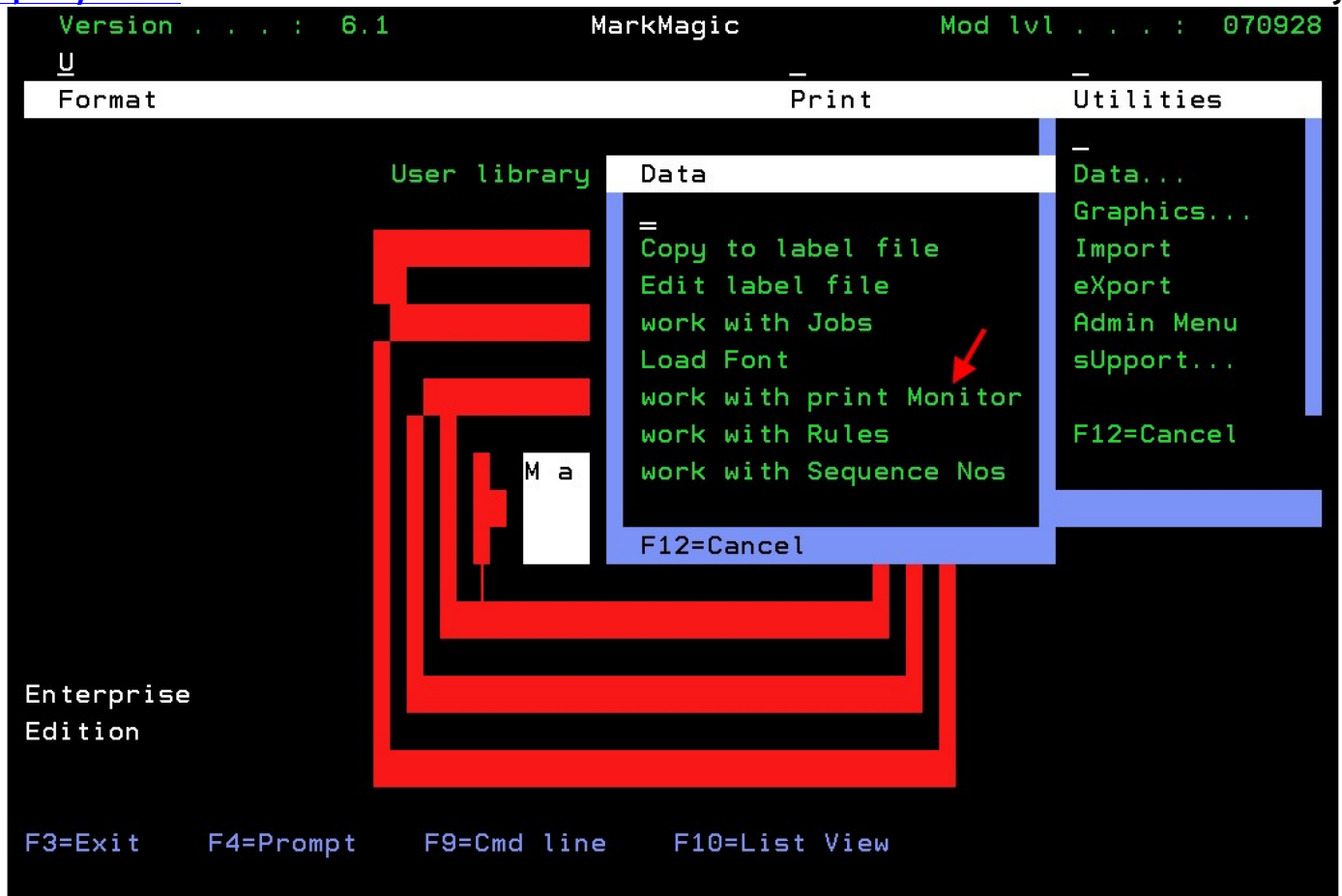
Type options, press Enter.
  1=Send   2=Change   3=Hold   4=Delete   5=Display   6=Release   7=Messages
  8=Attributes   9=Work with printing status

Opt  File      User      User Data   Sts   Pages   Copies   Form Type   Pty
=    QSYSPRT   KWH      STATEMENT   RDY    2       1      *STD       5

Parameters for options 1, 2, 3 or command
===> _____
F3=Exit   F11=View 2   F12=Cancel   F20=Writers   F22=Printers
F24=More keys
```



Press **F12** to return to MarkMagic main menu. Press **U** for *Utilities*, **D** for *Data*, and then **M** for *work with print Monitor*.



You will be brought to the *Work with MarkMagic Print Monitor* screen. It will most likely be blank because there are no monitors created.



```
Work with MarkMagic Print Monitor
Monitor Status . . . . . : Started by QSYSOPR 01/12/06 13:38:01
Position to monitor . . . . . = _____

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  10=Start  11=End

Opt Name      Library/Outq-File      Description      Typ  Sts

  (No Monitor records in file)

Bottom

F3=Exit      F5=Refresh      F6=Add      F8=Active Job      F9 Cmd line
F10=Start print monitor  F11=End print monitor  F12=Cancel
```

You will notice, at the top, the *Monitor Status*, is displayed. This lets you know whether or not the MarkMagic Monitor subsystem is started. If it is ended, it will let you know who ended it and when. The subsystem must be running for your monitors to work. Press **F10** to start the monitor subsystem if it is not started already.

Now, press **F6** to add a new monitor.

```
Work with MarkMagic Print Monitor
Monitor Status . . . . . : Started by QSYSOPR 01/12/06 13:38:01
Position to monitor . . . . . _____

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  10=Start  11=End

Add MarkMagic Print Monitor

Type choices, press Enter.

Monitor name . . . . . TUTORIAL      Name
Text description . . . . . Monitor For Tutorial_

F3=Exit    F5=Refresh    F9=Cmd line    F12=Cancel

F3=Exit    F5=Refresh    F6=Add        F8=Active Job    F9 Cmd line
F10=Start print monitor    F11=End print monitor    F12=Cancel
```

The *Add MarkMagic Print Monitor* window appears. Give the monitor a name and description and press ENTER. This tutorial named it **TUTORIAL** and gave it a description of **Monitor for Tutorial**. You are brought to the *Define Selection for input file* screen.

```

Define selection for input File

Name . . . . : TUTORIAL  Monitor for Tutorial

Monitor Profile
Monitor type . . . . . *SPLF      *PF, *SPLF
Monitor mode . . . . . *JOB       *JOB, *RULE

Input Spool File
File name . . . . . → QSYSPRT      Name, *ALL, Generic*
Output queue . . . . . → MMEXQ      Name, *ALL, Generic*
  Library . . . . . → MMEXAMPLES    Name, *LIBL, *USRLIB
User . . . . . *ALL                 Name, *CURRENT, *ALL
User data . . . . . → STATEMENTS    User data, *ALL
Form type . . . . . *ALL           Form type, *ALL, *STD
Program . . . . . *ALL             Name, *ALL, Generic*
  Library . . . . .                    Name, *LIBL, *USRLIB

Input Physical File
File name . . . . .                    Name
  Library . . . . .                    Name

F3=Exit  F4=Prompt  F5=Refresh  F9=Cmd line  F12=Cancel

```

The first two parameters are used to set the type of monitor being created. Since you are monitoring for spooled files, type **\*SPLF** for *Monitor type*. **\*JOB** is currently the only supported option for *Monitor mode*, so leave that parameter as is.

Since you picked **\*SPLF**, you only need to set parameters for the *Input Spool File* section. This is where you tell the monitor what characteristics the spooled file must have in order to trigger the printing process. You can be as general or as specific as you want. The spooled file created by **CALL STATEMENTS** has the following specifics: *File name* is **QSYSPRT** and the *User data* is **STATEMENTS**. Type these values into the corresponding fields. Next, because the spooled file is created in **MMEXQ** in **MMEXAMPLES** type those values in for *Output queue* and *Library*. You can leave the rest of the parameters with their default values. Press ENTER to proceed to the *Define Options for Monitor Process* screen.

## Define Options for Monitor Process

Name/Outq . : TUTORIAL Monitor for Tutorial MMEXAMPLES/MMEXQ

Type choices, press Enter.

Monitor process for \*JOB

Run MarkMagic print job . . . → MONJOB Name, \*NONE  
 Print job group . . . . . → MONITOR Name, \*SYSTEM  
 Job library name . . . . . → MRKMAGDTA Name, \*NONE, \*SEARCH

Exit program

Exit program name . . . . . \*NONE Name, \*NONE  
 Library . . . . . \_\_\_\_\_ Name, \*LIBL, \*USRLIB

Action for input splf

Action . . . . . \*NONE \*NONE, \*HLD, \*DLT, \*MOV, \*CPY  
 Output queue . . . . . \*OUTQ Name, \*OUTQ  
 Library . . . . . \_\_\_\_\_ Name, \*LIBL, \*USRLIB


F3=Exit F4=Prompt F5=Refresh F9=Cmd line F12=Cancel

This is where you tell the monitor what MarkMagic job to run when the monitor is triggered. Type **MONJOB** for *Run MarkMagic print job*. Type **MONITOR** for *Print job group*. Lastly, type **MRKMAGDTA** for *Job library name*. (If you are using a custom user library, type that name instead.) You can use the *Action for input splf* section to tell the monitor what to do with the original spooled file once it has triggered the monitor. \*NONE defaults to \*HLD which leaves the spooled file on hold in the original queue. \*HLD holds the spooled file. \*DLT deletes the spooled file. \*MOV moves the spooled file to a queue that you specify on the lines below. \*CPY will copy the spooled file to the queue you specify. For this tutorial, leave \*NONE as the *Action* and leave the rest of the parameters with their default values and press ENTER twice to create your new monitor.

```

Work with MarkMagic Print Monitor
Monitor Status . . . . . : Started by QSYSOPR 10/01/07 11:47:13
Position to monitor . . . . . _____

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  10=Start  11=End

Opt Name      Library/Outq-File      Description      Typ  Sts
__ TUTORIAL    MMEXAMPLES/MMEXQ          Monitor for Tutorial  *SPL *END
                                     

Bottom

F3=Exit      F5=Refresh      F6=Add      F8=Active Job      F9 Cmd line
F10=Start print monitor  F11=End print monitor  F12=Cancel

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```

You should now see the monitor listed on the screen. It will be created with a \*END for *Sts* (Status), which means that the monitor, itself, is not active yet. To start the job monitor, type **10** next to it and press ENTER. You should see the status change to \*STR. Now that both the subsystem and the monitor are started, your monitor is now active and monitoring the MMEXQ output queue for spooled files named QSYSPRT with user data STATEMENTS. Please note that the monitor will be active and will run print jobs until you either end the monitor (type **11** next to it) or end the entire subsystem (press **F11**). Ending the subsystem will prevent all monitors, in any user library, from running print jobs.


```

Work with MarkMagic Print Monitor
Monitor Status . . . . . : Started by QSYSOPR 10/01/07 11:47:13
Position to monitor . . . . . =_____

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  10=Start  11=End

Opt Name      Library/Outq-File      Description      Typ  Sts
__ TUTORIAL    MMEXAMPLES/MMEXQ          Monitor for Tutorial  *SPL *STR

```



```

Bottom

F3=Exit      F5=Refresh      F6=Add      F8=Active Job      F9 Cmd line
F10=Start print monitor  F11=End print monitor  F12=Cancel

```

All that is left to do is trigger the monitor to have it print your forms. By using the **CALL STATEMENTS** method again, you will trigger the monitor. This is because that command will make a new spooled file in output queue MMEXQ that meets all of the predefined conditions specified in the monitor. Once this happens, the monitor will put that spooled file on hold, capture its attributes and pass them along to the MarkMagic job. The job will then run and print using data from that spooled file.

**NOTE:** Since the print monitor runs using the QSYSOPR user ID, all output generated by the monitor is created as QSYSOPR.

Congratulations! If all went well, you should have two pages printed automatically after running **CALL STATEMENTS**. Let's review what was covered in this Print Monitor tutorial:

Topics Covered:

1. What a MarkMagic Job is and why you would want to create jobs.
2. What the MarkMagic Print Monitor is and why you would want to use it.
3. How to create and modify individual print monitors that are tied to a MarkMagic jobs.
4. How to start and end the Print Monitor subsystem and the individual monitors.

5. How to “trigger” your monitor and receive printed output from your desired printer.