

AS/400e series



# Job Scheduler for OS/400

*Version 4*



AS/400e series



# Job Scheduler for OS/400

*Version 4*

**Note**

Before using this information and the product it supports, be sure to read the information in "Notices" on page xi.

**First Edition (February 1998)**

This edition applies to version 4, release 2, modification 0 of Job Scheduler for OS/400 (5769-JS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This edition applies only to reduced instruction set computer (RISC) systems.

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## About Job Scheduler for OS/400 (SC41-5324)

This book provides information for planning, scheduling, and performing automated job scheduling operations. This book contains reference material to help you learn to use Job Scheduler.

This book provides:

- Explanations of key features of Job Scheduler.
- Numerous examples to assist you in setting up your own job schedules.

**Note:** This book contains examples to help you do common tasks. The contents of the displays illustrated in the examples may differ from the ones you see on your system because the names of your libraries, objects, and parameters may be different from the ones used in the examples. Display formats provided are representative of those used in the system but will vary in the level of detail and information shown.

- Procedures for overriding Job Scheduler delivered job controls.
- Questions and answers for both the beginning and advanced user.

---

### Who should read this book

This book is intended for the system administrator and operator who are responsible for scheduling of jobs, batch management, and automated operations.

If you know how to operate the AS/400 system, and you have planned and developed job scheduling and automated operations strategies for your organization, then you can use this book to assist you in implementing these strategies using the Job Scheduler product.

It is important for you to plan and develop your scheduling strategy based on the needs of your organization, and then implement your plan using Job Scheduler.

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### AS/400 Operations Navigator

AS/400 Operations Navigator is a powerful graphical interface for Windows 95/NT clients. With AS/400 Operations Navigator, you can use your Windows 95/NT skills to manage and administer your AS/400 systems. You can work with database administration, file systems, Internet network administration, users, and user groups. You can even schedule regular system backups and display your hardware and software inventory. Figure 0-1 on page xiv shows an example of the display.

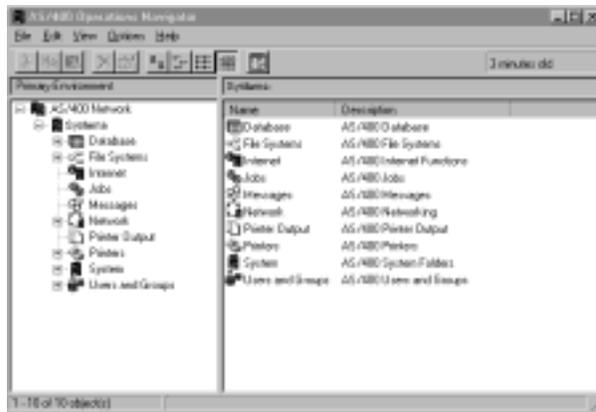


Figure 0-1. AS/400 Operations Navigator Display

IBM recommends that you use this new interface. It is simple to use and has great online information to guide you.

You can access the AS/400 Operations Navigator from the Client Access folder by double-clicking the AS/400 Operations Navigator icon. You can also drag this icon to your desktop for even quicker access.

While we develop this interface, you will still need to use the familiar AS/400 “green screens” to do some of your tasks. You can find information to help you in this book and online.

---

## Prerequisite and related information

For information about Advanced 36 publications, see the *Advanced 36 Information Directory*, SC21-8292-01, in the AS/400 Softcopy Library.

For information about other AS/400 publications (except Advanced 36), see either of the following:

- The *Publications Reference*, SC41-5003-02, in the AS/400 Softcopy Library.
- The AS/400 online library is available on the World Wide Web at the following uniform resource locator (URL) address:

<http://as400bks.rochester.ibm.com/>

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## Information available on the World Wide Web

In addition to the AS/400 online library on the World Wide Web, you can access other information from the AS/400 Technical Studio at the following URL address:

<http://www.as400.ibm.com/techstudio>

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## Chapter 1. Welcome to IBM Job Scheduler for OS/400

**IBM Job Scheduler for OS/400 (Job Scheduler)** is a job scheduling system designed to allow unattended operations, automate operator functions, and control report distribution. Over 15 schedule codes allow you to quickly describe and set up any job scheduling scenario that you need. Once you have set up the jobs, Job Scheduler acts in place of your operator to schedule, submit, and report on jobs day after day, week after week.

Job Scheduler eliminates the need to write control language programs to perform routine tasks through the use of its over twenty commands.

If you need to know what jobs have been run and what the results were, you can use Job Scheduler's extensive job completion history information and logging facilities. Job completion information is available online or in reports.

If you need to manage report distribution, Job Scheduler's report distribution function allows you to specify and track who gets what report, when, and how many copies, with the capability to duplicate the report to the recipient's designated output queue.

---

### Job Scheduler Benefits

Following is a list of Job Scheduler benefits.

- Unattended job processing 24 hours a day, 7 days a week, with total compliance to the schedules you set
- Network processing that allows jobs to be set up on any AS/400 in the network and run on any other AS/400 in the network
- Security features that allow you to restrict users from accessing jobs or functions
- Flexibility of using standard calendars, fiscal calendars, or user-defined calendars
- Multiple holiday calendars that allow jobs to use different holiday calendars
- Complete user control of how, when, and where a job is submitted
- Contingent processing based on the existence of an object or the existence of records in a file
- Interface directly to a third-party paging system so that pages can be sent based on the results of job completion
- Spooled file distribution to multiple output queues or to remote systems with optional banner pages
- Forecasts of production schedules
- Automatic capture of application software job information
- Extensive job dependencies including predecessor, successor, and active dependency processing
- Processing of multiple commands per job

- Report distribution for the routing, monitoring, and controlling of all output reports
- Submission and monitoring of System/36 procedures
- Historical tracking and logging of Job Scheduler activity
- Over twenty commands for Job Scheduler functions in user-defined procedures
- Provisions for full online documentation of each job
- Management of jobs by application
- Job dependencies based on a line, controller, device, or subsystem status
- Extensive cursor-sensitive online help information on all displays

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## Functions and Process Flow of Job Scheduler

Job Scheduler can be divided into six major functions:

- Job scheduling
- Job history tracking
- Output reporting
- Job controls
- Systems controls
- Report distribution

---

## Security Authority for Job Scheduler

Job Scheduler security is a means of specifying who in your organization has authority to set up or change information about scheduled jobs. Authority can be specified at two levels: Functional Authority and Job Authority.

### Functional Authority

Job Scheduler functional authority allows you to maintain complete control of who can perform various job and system-related functions. You can specify who can perform any Job Scheduler function ranging from adding a job to assigning of report distribution IDs. Functions are assigned to individuals or to groups of individuals by using various keywords that are available through Job Scheduler.

### Job Authority

You can use job authority to assign functional authority at the job level. For instance, you might want a user to be able to change all jobs with the exception of the payroll application. You can use a Job Scheduler command to enforce this requirement.

---

## Job Scheduler Libraries

Installation of Job Scheduler creates two libraries on your system, QIJS and QUSRIJS. The QIJS library contains Job Scheduler program objects. The QUSRIJS library is used to store Job Scheduler database objects and logs, including a history of job processing, user defined jobs and other user specific information. It is advisable that these two libraries be saved regularly as part of your backup and disaster recovery plans.

When backing up Job Scheduler, the following data queues can be active and will not be backed up:

- QIJSLOCK
- QIJSDTAQRN
- QIJSDTAQ

This is not a problem, since Job Scheduler creates these data queues each time the job monitor is started.

After you install Job Scheduler you should check the QALWUSRDMN system value. You can do this by entering the following command on any command line:

```
WRKSYSVAL QALWUSRDMN
```

You can then display the current values for the QALWUSRDMN system value. If this value is not set to \*ALL, you must add QIJS and QUSRIJS to the list of libraries specified for the QALWUSRDMN parameter.

When Job Scheduler is installed, a user profile called QIJS is created for you. You should not delete this user profile.

---

## Using the GO Command for Job Scheduler

The Go to Menu (GO) command permits easy and direct access to any menu. Table 1-1 lists the menus that are available within Job Scheduler.

<b>Menu ID</b>	<b>Menu Title</b>
JS	Job Scheduler for OS/400
JSHST	Job History Information
JSJOBCTL	Job Controls
JSRPT	Job Reports
JSRPTCTL	Report Controls
JSRPTDRPT	Report Distribution Reports
JSRPTDST	Report Distribution
JSSYSCTL	System Controls

To go to any of the menus from any command line, type GO followed by the menu ID, then press the Enter key. For example, to go to the Job Scheduler for OS/400 main menu, type GO JS from any command line and press the Enter key. The menu ID is shown in the upper-left corner of the menu.

For assistance in entering the GO command, type GO and press F4 (Prompt). If you do not know the entire menu name, you can use a generic name. For instance, to see a list of all Job Scheduler menus, enter GO JS\*.

---

## How to Use Job Scheduler Commands

All Job Scheduler menus have the F10 (Commands) key available. To perform Job Scheduler functions you can use the F10 (Commands) key (without going through the Job Scheduler menus). When you press F10 you see the Job Scheduler Commands display where all Job Scheduler commands are listed. You can select any one of the commands by entering the command number on the command line and pressing the Enter key.

There are over twenty commands available to you in Job Scheduler. These commands can provide a shortcut in performing Job Scheduler functions, although in the beginning, the Job Scheduler menus offer the easiest way of moving around in Job Scheduler. A list of available commands and their associated syntax diagrams can be found in Appendix A, User Commands.

---

## Accessing Job Scheduler Commands — Example

For example, in menu processing to add a job to the Job Scheduler schedule you first go to the Job Scheduler for OS/400 main menu (GO JS), select Option 1 (Work with Jobs), and press the Enter key. From the Work with Jobs display, you can select Option 1 (Add) to see the Add Job display. Alternately, in command processing, you can go to any of the Job Scheduler menus and press F10 to see the Job Scheduler Commands display. You select the Add Job using Job Scheduler (ADDJOBJS) command. You will then see the ADDJOBJS display where you can add a job to Job Scheduler.

Another option is to type the ADDJOBJS command on any command line and press F4 or Enter. You will be taken directly to the Add Job using Job Scheduler (ADDJOBJS) display where you can enter a job.

---

## Jobs in Job Scheduler

A **job** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. For instance, if you want to process the daily payroll program, you can set up a job in Job Scheduler called DAILYPR. You then put in the various commands or program definitions that are required to process the daily payroll. DAILYPR can be assigned a schedule code with an accompanying time and then left for Job Scheduler to automatically run and monitor. Job Scheduler jobs are not OS/400 objects.

---

## Job Groups in Job Scheduler

**Job groups** are a series of jobs that run consecutively. Job groups are based on a sequence number that you specify in the *Group sequence* field. A normal completion is required for each job in the group before the next job in the group is submitted for processing. If any job in the group does not complete normally, the processing ceases for that group. The first job within a group must have a sequence of 1 and is the controlling job for purposes of scheduling information. Any

subordinate job in the group (sequence number greater than 1) is bypassed if its status is held. Holding the sequence 1 job group will hold the entire group.

---

## **Online Help Information for Job Scheduler**

Online help information can be accessed by pressing the F1 or Help key from any Job Scheduler display. All Job Scheduler menus, displays, and commands have field-level cursor-sensitive help information available. Additionally, many messages that are produced by Job Scheduler have second-level help information to assist you in problem diagnosis and resolution. Help information for any display in Job Scheduler can be printed by pressing the Help key to display the help information and then pressing F14 (Print help).



---

## Chapter 2. Getting Started with Job Scheduler

This chapter provides a general overview of Job Scheduler on your AS/400 system. Information will be covered on:

- Main menu options
- Scheduling a job

---

### Main Menu Options for Job Scheduler

The entry point to all major Job Scheduler functions is the Job Scheduler main menu. To display the main menu, type GO JS on any command line.

```
JS                               Job Scheduler for OS/400                               System:  RCHAS400

Select one of the following:

    1. Work with jobs
    2. Job history information
    3. Job reports
    4. Job controls
    5. System controls

    10. Report distribution
```

Figure 2-1. Job Scheduler Main Menu

### Option 1 (Work with Jobs)

Option 1 (Work with jobs) takes you to the Work with Jobs display where most job scheduling and report distribution functions can be performed. All jobs that you have set up in Job Scheduler are displayed along with their status, scheduled time and date, and schedule code. You can choose any one of 24 options that allow you to perform such functions as adding jobs, removing jobs, setting up job dependencies, changing the job local data area (LDA), editing job authority, and so on. With the function keys you can display job statistics, change job controls, and so on. This display is the center of Job Scheduler processing and is the one most used in day-to-day Job Scheduler operations.

### Option 2 (Job History Information)

Option 2 (Job history information) allows you to review the jobs that Job Scheduler has submitted and what happened as a result of this submission. Job history can be reviewed in two ways:

- Job Scheduler statistics can be viewed online about each job that has been submitted and run by Job Scheduler. These statistics include such things as the last run time and date, elapsed time, and completion code. This information is not available in printed form.
- A Job Scheduler message log can be viewed online or printed. Job Scheduler keeps a log of all Job Scheduler messages. An example of a message would be:

Job Scheduler monitor started  
or  
Job ABC changed

Both types of information are useful in providing a picture of ongoing Job Scheduler operations.

### **Option 3 (Job Reports)**

Option 3 (Job reports) displays a list of Job Scheduler reports that you may choose to print. Appendix B, Report Summary lists all reports along with the associated printer file and command.

### **Option 4 (Job Controls)**

Option 4 (Job controls) allows you to access multiple options that affect how jobs are processed using Job Scheduler. For instance, you can change the Job Scheduler job control for pager messages sent for abnormal completion or what the name of the default remote location name is for a job that you add. Additionally, you can use the Job controls options to set up calendars, including holiday and fiscal calendars, library lists, applications, and parameters that jobs use when being submitted by Job Scheduler. There are also 6 additional Job Scheduler reports that you can select for printing. Each of these reports relates to job control functions.

### **Option 5 (System Controls)**

Option 5 (System controls) allows you to perform functions and set the following values that control overall Job Scheduler operations. You can perform tasks in these major areas:

- You can start and stop the Job Scheduler job monitor.

The Job Scheduler monitor is a continuously running job that submits scheduled Job Scheduler jobs. The Job Scheduler monitor continuously looks at the Job Scheduler schedule and decides when to submit jobs from the job list. You must start the Job Scheduler job monitor using the STRJS command from any command line or Option 1 of the System Controls menu. You stop the Job Scheduler job monitor using the ENDJS command or Option 2 of the System Controls menu. Starting the Job Scheduler job monitor can be automated. How to do this is explained in "Commonly Asked Questions" on page 9-4.

- You can change Job Scheduler default values.

For instance, you can change how many days of history information you want to keep in the Job Scheduler history file or change what days are used as working days of the week. Care should be taken in changing any of these values as they are used throughout the system.

- You can change the Job Scheduler security.

Job Scheduler security addresses functional level security (such as who can add a job) and security at the job level (such as who can change or view a specific job).

- You can work entries in the OS/400 job scheduler. If you want to move the entry to Job Scheduler, an option is provided to do so.
- You can reset IBM Job Scheduler for OS/400, which is a mass reset of all job scheduler jobs including dependencies and status.

- You can specify periods of time that you want to suspend job scheduler processing.

## Option 10 (Report Distribution)

Option 10 (Report distribution) allows you to perform report distribution to various recipients including companies, divisions, locations and so on. You can determine how reports are to be grouped for distribution, who receives the reports, and how many copies they are to receive. Additionally, you can print various report distribution reports.

---

## Setting up a Job — Example

Following is an example of setting up a job (called SALESRPT) in the Job Scheduler schedule to submit the daily sales report at 10:00 p.m. Monday through Friday.

1. Go to any command line and type GO JS to go to the Job Scheduler main menu. Select Option 1 to go to the Work with Jobs using Job Scheduler (WRKJOBJS) command prompt. Use the parameter defaults and press Enter to go to the Work with Jobs display.
2. Go to the Option column on the Work with Jobs display, type a "1" for Add job and press Enter, which takes you to the Add Job display.
3. Type the following information on the Add Job display to add the job SALESRPT to run daily.

<b>Field</b>	<b>Data</b>
Job name	SALESRPT
Schedule code	*DAILY
Scheduled times	22:00 (10:00 p.m.)
Days	*MON *TUE *WED *THU *FRI
Text	Produce daily sales report

The following display shows the completed Add Job display to add SALESRPT to the Job Scheduler schedule.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . SALESRPT      Name
  Group name. . . . . *NONE      Name, *NONE
  Group sequence . . . . . 0      Number
Application . . . . . *NONE      Name, *NONE, F4 list
Schedule code . . . . . *DAILY   Name, *DAILY, F4 for list
Scheduled times . . . . . 2200 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00
Calendar . . . . . *NONE      Name, *NONE, F4 list
Holiday calendar . . . . . *NONE  Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE   Name, *NONE, F4 list
Days . . . . . *MON *TUE *WED *THU *FRI
Text . . . . . Produce daily sales report

```

Figure 2-2. Adding the SALESRPT Job

4. Press F7 to enter the commands that are processed by the job as shown in the following Add Command List display.

```

                                Add Command List                        RCHAS400

Job name . . . . . : *NEW
  Group name . . . . . : *NONE
  Group sequence . . . . . : 0
Text . . . . . :

Type choices, press Enter.

Seq  Command
-----
 10  CALL SLSC001
 20  CALL SLSC002

```

Figure 2-3. Command List for SALESRPT

Press Enter to return to the Add Job display and press the Enter key again to add the job to Job Scheduler.

**Note:** On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

5. Type SALESRPT in the *Position to* field on the Work with Jobs display and press the Enter key. The entry shows the time and date scheduled and the schedule code.

```

                                Work with Jobs                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
 1=Add   2=Change   3=Hold   4=Remove   5=Display   6=Release/Reset
 7=Submit immediately 8=Change command list 9=Change job LDA...

   Job      Group      Grp      Schedule  Schedule  Schedule
Opt Name    Name        Seq      Date      Time      Code
-----
  SALESRPT  *NONE        0  *READY    2/07/94   22:00    *DAILY

```

Figure 2-4. Work with Jobs – Job Schedule

- After the job has run, display the job history to review when the job ran, how long it took, and the completion status. To do this, find the SALESRPT job on the Work with Job display and press F11 (Job statistics) as shown in the following Work with Jobs display.

```

                                Work with Jobs                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
 1=Add   2=Change   3=Hold   4=Remove   5=Display   6=Release/Reset
 7=Submit immediately 8=Change command list 9=Change job LDA...

   Job      Group      Grp      ----- Last run -----
Opt Name    Name        Seq      Date  Start  End  Elapsed  Completion
-----
  SALESRPT  *NONE        0  2/07/94  22:00  22:35  0:35  *NORMAL

```

Figure 2-5. Work with Jobs – Job Statistics

When finished, you can type GO JS to return to the Job Scheduler main menu.



---

## Chapter 3. Schedule Codes

Schedule codes are Job Scheduler system keywords used to indicate when a job or job group is to run. Job Scheduler provides a wide variety of schedule codes designed to meet all of your job scheduling requirements. Schedule codes, combined with the times and dates that you specify, form the basis of all the scheduling capabilities of Job Scheduler.

---

### Changing the Default Schedule Code

Job Scheduler allows you to choose which schedule code you want to be the system-wide default schedule code. The schedule code default (and other job defaults) is specified in the Change Job Defaults display. See Chapter 5, Job Controls for more information on job controls. You reach the Job Controls display by selecting Option 4 (Job controls) from the main menu, and you then select Option 1 (Work with job defaults) from the Job Controls menu. From the Work with Job Defaults display, select Option 2 (Change) to go to the Change Job Defaults display.

```

JS                               Job Scheduler for OS/400                System:  RCHAS400

Select one of the following:

    1. Work with jobs
    2. Job history information
    3. Job reports
-->  4. Job controls
    5. System controls

    10. Report distribution
  
```

```

JSJOBCTL                          Job Controls                          System:  RCHAS400

Select one of the following:

-->  1. Work with job defaults
    2. Work with calendars
    3. Work with holiday calendars
    4. Work with fiscal calendars
    5. Work with library lists
    6. Work with applications
    7. Work with parameters
  
```

```

                               Work with Job Defaults                    RCHAS400

Position to . . . . .           Starting characters

Type options, press Enter.
  2=Change  5=Display  7=Edit function authority
  8=Change pre command list  9=Change post command list

Job
Opt Default      Text

*SYSTEM
2 ACCTSPAY
  GENLEDG      Corporate General Ledger System
  PAYROLL      Regional Payroll Information
  
```

```

                               Change Job Defaults                      RCHAS400

Type choices, press Enter.

Application . . . . . ACCTSPAY      Name, *NONE, F4 for list
Schedule code . . . . . *DAILY      Name, *DAILY, F4 for list
Calendar . . . . . *NONE           Name, *NONE, F4 for list
Holiday calendar . . . . . *NONE     Name, *NONE, F4 for list
Fiscal calendar . . . . . *NONE     Name, *NONE, F4 for list
Remote location name. . . . . *LCL   Name, *NONE
Pager recipient normal . . . . . *NONE Name, *NONE
  Pager message . . . . .
Pager recipient abnormal . . . . . *NONE Name, *NONE
  Pager message . . . . .
Use job default commands . . . . . *NONE *NONE, *ALL, *PRE, *POST
  
```

The choice of schedule code default in the Job Controls display determines the initial presentation of the Add Job display. For instance, the Add Job display for a

default schedule code of \*DAILY is different than the Add Job display for a default schedule code of \*CALENDAR. This is shown in the following comparison. Note that the Add Job display for each default schedule code contains many of the same fields, but in the case of the \*DAILY default schedule code, this display contains *Days* field and does not contain a *Calendar* field. The \*CALENDAR schedule code does not include *Days* field but does contain a *Calendar* field.

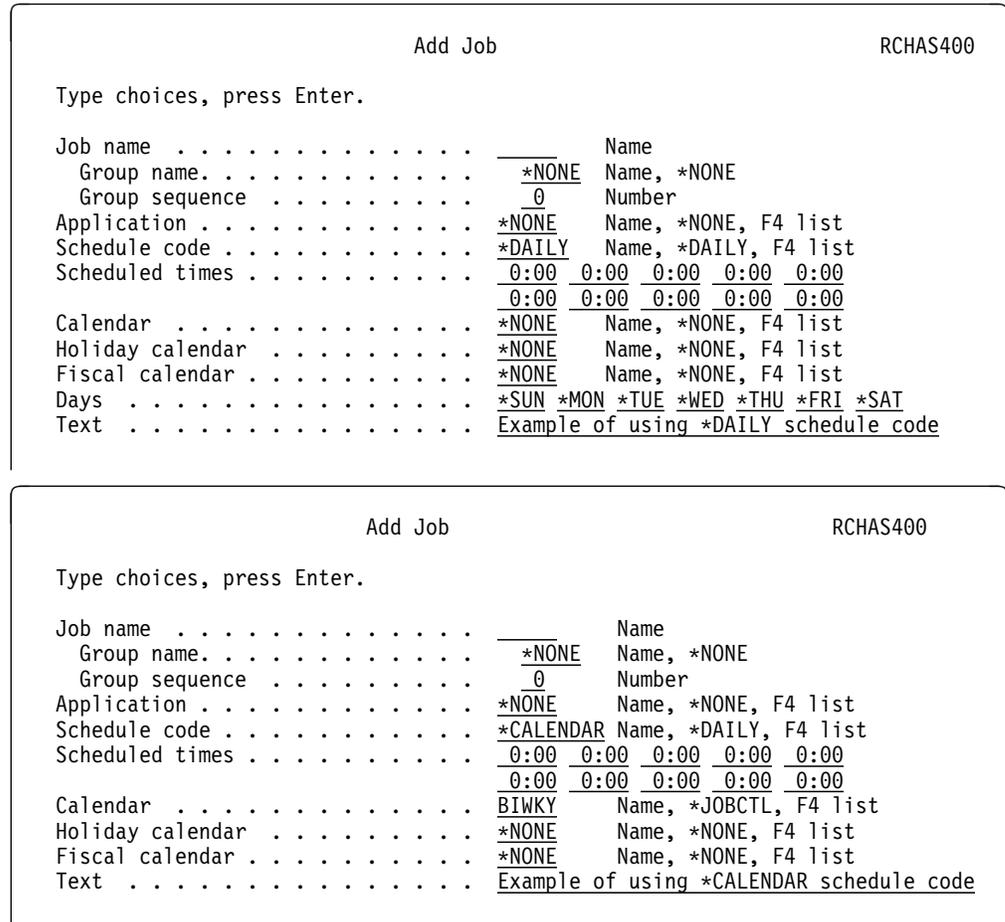


Figure 3-1. Comparison of Add Job Display Using \*DAILY or \*CALENDAR

## Using Schedule Codes

A schedule code is assigned to a job using the Add Job display. You can change from one Add Job display presentation to any other display based on the schedule code you enter. You enter the *Job name* that you are adding and the schedule code that you want to use in the *Schedule code* field and press the Enter key. All entry fields appropriate to the schedule code you have selected are then displayed and available for use.

Following is a description of each schedule code available in Job Scheduler.

**Notes:**

1. The Add Job displays used in all the following examples is the Add Job display accessed from Option 1 (Add) from the Work with Jobs display.
2. On the second page of the Add Job display there are two fields, *Start time and date* and *End time and date*. The *Start time and date* along with the *End time and date* fields establish a range of allowable dates for a job to run. The starting time and date does not represent the first day that a job will run; rather it represents the first allowable date a job can run if the schedule code you select calculates that a job should run on this date. Likewise the ending time and date does not represent the last day a job will run. The date or dates that a job runs is determined based on the schedule code and the accompanying date calculations you select when the job is added to Job Scheduler.

**\*DAILY**

The \*DAILY schedule code specifies that the job is scheduled to run on a daily basis or on selected days every week. For example, a job can be scheduled to run on Wednesday only, selected days of the week, or every day of the week. If you choose the \*DAILY schedule code, the days of the week that you want the job to run are specified in the *Days* field. Jobs with a \*DAILY schedule can be run multiple times during the day. Following is a job SALESUPD that is scheduled to run using the \*DAILY schedule code. The job runs on Monday through Friday at 10:00 a.m., 2:00 p.m. (14:00) and 4:00 p.m. (16:00).

Add Job		RCHAS400
Type choices, press Enter.		
Job name . . . . .	<u>SALESUPD</u>	Name
Group name . . . . .	<u>*NONE</u>	Name, *NONE
Group sequence . . . . .	<u>0</u>	Number
Application . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Schedule code . . . . .	<u>*DAILY</u>	Name, *DAILY, F4 list
Scheduled times . . . . .	<u>10:00 14:00 16:00 0:00 0:00</u> <u>0:00 0:00 0:00 0:00 0:00</u>	
Calendar . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Holiday calendar . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Fiscal calendar . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Days . . . . .	<u>*MON *TUE *WED *THU *FRI</u>	
Text . . . . .	<u>Example of *DAILY schedule code</u>	

Figure 3-2. \*DAILY Schedule Code Example

**\*CALENDAR**

The \*CALENDAR schedule code specifies that you are using a calendar to schedule the job. Calendars are user defined in the Work with Calendars display. You can have an unlimited number of calendars.

Following is an example of using the \*CALENDAR schedule code to schedule a job called CALJOB. If you do not know the name of a calendar or want to set up a new calendar, position the cursor in the *Calendar* field and press F4. A pop-up window listing all calendars that you have set up is displayed. In the following example, the calendar MON-WED-FR is selected to use with job CALJOB. If you want to display

the calendar that you have chosen or set up a new one, you can press F9 from the calendar pop-up window which will take you to the Work with Calendars display. From there you can display (Option 5) or add (Option 1) a calendar. Job CALJOB is to run at 9:00 a.m. using the calendar MON-WED-FR.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . CALJOB      Name
Group name. . . . . *NONE      Name, *NONE
Group sequence . . . . . 0      Number
Application . . . . . *NONE      Name, *NONE, F4 list
Schedule code . . . . . *CALENDAR Name, *DAILY, F4 list
Scheduled times . . . . . 9:00 0:00 0:00 0:00 0:00
                        0:00 0:00 0:00 0:00 0:00
Calendar . . . . . MON-WED-FR   Name, *JOBCTL, F4 list
Holiday calendar . . . . . *NONE Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE Name, *NONE, F4 list
Text . . . . . Example of *CALENDAR schedule code

```

Figure 3-3. \*CALENDAR Schedule Code Example

## \*DATE

The \*DATE schedule code specifies that the job is scheduled to run on specific dates throughout the year. They are retained in the system in month day (mmdd) or day month (ddmm) format depending on the system value and will be submitted on the specified dates. Up to 13 dates can be scheduled. If you choose the \*DATE schedule code, you must enter the dates in the *Dates of the year* fields.

Following is an example using the \*DATE schedule code. In this example, a job named MIDMONTH is scheduled to run at midnight (24:00) on the fifteenth of each month. Note that there is not a year associated with this schedule. The job would run on the fifteenth of each month for all years. If you wanted to run MIDMONTH for only 1995, you could specify an ending date of 12/16/95 in the *End date* field on the second page of the Add Job display.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . MIDMONTH      Name
Group name. . . . . *NONE        Name, *NONE
Group sequence . . . . . 0        Number
Application . . . . . *NONE       Name, *NONE, F4 list
Schedule code . . . . . *DATE     Name, *DAILY, F4 list
Scheduled times . . . . . 24:00 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Calendar . . . . . *NONE         Name, *NONE, F4 list
Holiday calendar . . . . . *NONE  Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE   Name, *NONE, F4 list
Dates of the year . . . . . 0115 0215 0315 0415 0515 0615 0715
                          0815 0915 1015 1115 1215
Text . . . . . Example of *DATE schedule code

```

Figure 3-4. \*DATE Schedule Code Example

## \*DAY

The \*DAY schedule code specifies that the job is to run on particular calendar days of the month, every month. These are entered in day (dd) format. For instance, 05 means that a job is run the fifth day of each month. Days are entered in the *Day of the month* field.

The days entered in the *Day of the month* field work in conjunction with the *Working days* field. For instance, when using the \*DAY schedule code, if you specified 05 and 10 in the *Day of the month* field and \*YES in the *Working days* field, the job would run on the fifth and tenth working day of each month. If you had specified \*NO in the *Working days* field, the job would run on the fifth and tenth day of the month. Working days are specified in the system controls.

Following is an example of the \*DAY schedule code. A job called FIFTHDAY has been set up to run on the first day of each month and every fifth day thereafter at 12:00 noon. Note that in months that do not have 31 days, the last day (31) would be ignored. Also note that the \*YES has been specified in the *Working days* field.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . FIFTHDAY      Name
Group name. . . . . *NONE        Name, *NONE
Group sequence . . . . . 0        Number
Application . . . . . *NONE       Name, *NONE, F4 list
Schedule code . . . . . *DAY     Name, *DAILY, F4 list
Scheduled times . . . . . 12:00 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Calendar . . . . . *NONE         Name, *NONE, F4 list
Holiday calendar . . . . . *NONE  Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE   Name, *NONE, F4 list
Day of the month . . . . . 01 06 11 16 21 26 31  _ _ _
Text . . . . . Example of *DAY schedule code

```

Figure 3-5. \*DAY Schedule Code Example

## \*ONCE

The \*ONCE schedule code specifies that the job is to run once. The *Save* field indicates whether or not the job is to be saved (\*YES) or deleted (\*NO) after it has run. The date that the job is scheduled to run is typed into the *Single date* field. Leaving the date blank will run the job as soon as the scheduled time is reached.

Following is an example of the \*ONCE schedule code. A job called ONETIME has been set up to run once on February 15 at 12:00 noon. The job will be saved after it runs as is indicated by Save (\*YES).

```

                                     Add Job                                     RCHAS400

Type choices, press Enter.

Job name . . . . . ONETIME      Name
Group name. . . . . *NONE       Name, *NONE
Group sequence . . . . . 0       Number
Application . . . . . *NONE     Name, *NONE, F4 list
Schedule code . . . . . *ONCE   Name, *DAILY, F4 list
Scheduled times . . . . . 12:00 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Holiday calendar . . . . . *NONE Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE Name, *NONE, F4 list
Single date . . . . . 215      Date
Save . . . . . *YES
Text . . . . . Example of *ONCE schedule code
```

Figure 3-6. \*ONCE Schedule Code Example

## \*MONTHEND

The \*MONTHEND schedule code specifies that the job runs on the last day of the month.

Following is an example of the \*MONTHEND schedule code. A job called EOMPROC has been set up to run at the end of each month at 11:00 a.m.

```

                                     Add Job                                     RCHAS400

Type choices, press Enter.

Job name . . . . . EOMPROC     Name
Group name. . . . . *NONE       Name, *NONE
Group sequence . . . . . 0       Number
Application . . . . . *NONE     Name, *NONE, F4 list
Schedule code . . . . . *MONTHEND Name, *DAILY, F4 list
Scheduled times . . . . . 11:00 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Calendar . . . . . *NONE       Name, *NONE, F4 list
Holiday calendar . . . . . *NONE Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE Name, *NONE, F4 list
Text . . . . . Example of *MONTHEND schedule code
```

Figure 3-7. \*MONTHEND Schedule Code Example

## \*MINUTES

The \*MINUTES schedule code specifies that the job runs every specified number of minutes. The number of minutes are entered in the *Interval* field.

Following is an example of the \*MINUTES schedule code. In this example a job called EVERY30 is being added. The job is scheduled to run every 30 minutes, but only on Sunday and Saturday.

```

                                     Add Job                                     RCHAS400
Type choices, press Enter.
Job name . . . . . EVERY30      Name
Group name. . . . . *NONE      Name, *NONE
Group sequence . . . . . 0      Number
Application . . . . . *NONE     Name, *NONE, *JOBCTL, F4 list
Schedule code . . . . . *MINUTES Name, *DAILY, F4 list
Interval . . . . . 30          Minutes, 1-720
Calendar . . . . . *NONE      Name, *NONE, F4 list
Holiday calendar . . . . . *NONE Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE Name, *NONE, F4 list
Days . . . . . *SUN          *SAT
Text . . . . . Example of *MINUTES schedule code
```

Figure 3-8. \*MINUTES Schedule Code Example

## \*NUMDAY

The \*NUMDAY schedule code specifies that the job runs every specified number of days. The number of days specified must be 99 or less. The number of days is entered in the *Interval* field. The number of days is specified as either working days or calendar days depending on the value in the *Working days* field. If you specify \*YES in the *Working days* field, the number of days specified in the *Interval* are working days. For example, if you specified an interval of 3, and the *Working days* field was specified as \*YES, the job would run every third working day. If the value in the *Working days* field was \*NO, the job would run every third day, regardless of whether the day was a working day.

**Note:** If the scheduled time to run is greater than the current time, Job Scheduler will count that time as a whole day (if you enter a Job Scheduler job on Monday at 3:00 p.m. to run every 2 days at 5:00 p.m., the job will run the first time on Tuesday at 5:00 p.m.).

Following is an example of the \*NUMDAY schedule code. In this example a job called EVERY3 is being added to process every 3 days at 12:00 noon and 10:00 p.m. and working days are specified as \*NO. The job will process every 3 days unless limits are put on it using the *Start and end time and date* fields on the second page of the Add Job display.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . EVERY3      Name
Group name. . . . . *NONE      Name, *NONE
Group sequence . . . . . 0      Number
Application . . . . . *NONE     Name, *NONE, F4 list
Schedule code . . . . . *NUMDAY Name, *DAILY, F4 list
Scheduled times . . . . . 12:00 22:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Interval . . . . . 3           Days, 1-99
Working days . . . . . *NO     *NO, *YES
Text . . . . . Example of *NUMDAY schedule code

```

Figure 3-9. \*NUMDAY Schedule Code Example

### \*FIRST, \*SECOND, \*THIRD, \*FOURTH, \*FIFTH, \*LAST

The \*FIRST, \*SECOND, \*THIRD, \*FOURTH, \*FIFTH, and \*LAST schedule codes work similarly and are combined here for simplicity of explanation. Each schedule code specifies that a job is to run on a designated day of every month or specified fiscal periods. This option is used in conjunction with the *Single day* field. For instance, if you want to run a job on the third Tuesday of each month, you would use the \*THIRD scheduling code and you would use \*TUE in the *Single day* field.

Following is an example of the \*LAST schedule code. A job called LASTSAT has been set up to run the last Saturday of every month at midnight.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . LASTSAT     Name
Group name. . . . . *NONE      Name, *NONE
Group sequence . . . . . 0      Number
Application . . . . . *NONE     Name, *NONE, F4 list
Schedule code . . . . . *LAST   Name, *DAILY, F4 list
Scheduled times . . . . . 24:00 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Calendar . . . . . *NONE       Name, *NONE, F4 list
Holiday calendar . . . . . *NONE Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE Name, *NONE, F4 list
Single day . . . . . *SAT
Text . . . . . Example of *LAST schedule code

```

Figure 3-10. \*LAST Schedule Code Example

### \*FIRSTWRK, \*LASTWRK

The \*FIRSTWRK and \*LASTWRK specifies that the job is to run on the first or last working day of every month or specified fiscal periods respectively. This option is used in conjunction with the *Working days* field in the system controls display.

Following is an example of the \*LASTWRK schedule code. Also shown is the Change System Controls display. The Change System Controls display controls many system values including the working days that you designate. As is illustrated in the Change Systems Controls display, the working days designated are Monday through Friday. The \*LASTWRK schedule code determines, based on the month and year, what the last day of the month is and schedules the job accordingly. For instance, the job FINALWRK would run on a Thursday at midnight if the month were June, 1994, since June 30, 1994 is a Thursday.

Add Job		RCHAS400
Type choices, press Enter.		
Job name . . . . .	<u>FINALWRK</u>	Name
Group name . . . . .	<u>*NONE</u>	Name, *NONE
Group sequence . . . . .	<u>0</u>	Number
Application . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Schedule code . . . . .	<u>*LASTWRK</u>	Name, *DAILY, F4 list
Scheduled times . . . . .	<u>24:00 0:00 0:00 0:00 0:00</u>	
	<u>0:00 0:00 0:00 0:00 0:00</u>	
Calendar . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Holiday calendar . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Fiscal calendar . . . . .	<u>*NONE</u>	Name, *NONE, F4 list
Text . . . . .	<u>Example of *LASTWRK schedule code</u>	

Change System Controls		RCHAS400
Type choices, press Enter.		
Job monitor user . . . . .	<u>*CURRENT</u>	Name, *CURRENT
Job monitor library list . . . . .	<u>*SYSVAL</u>	Name, *SYSVAL, F4 List
Message queue for notification . . . . .	<u>QSYSOPR</u>	Name
Library . . . . .	<u>*LIBL</u>	Name, *LIBL
Message severity for notification . . . . .	<u>40</u>	00-99
Output queue . . . . .	<u>*PRTF</u>	Name, *PRTF
Library . . . . .	<u>*LIBL</u>	Name, *LIBL
Remove history type . . . . .	<u>*OCCUR</u>	*DAYS, *OCCUR
History days/occurrences to keep . . . . .	<u>100</u>	Number, 1-999
Log entries to keep . . . . .	<u>100</u>	Number, 1-999
Held job notification . . . . .	<u>*NO</u>	*NO, *YES
Working days . . . . .	<u>*MON *TUE *WED *THU *FRI</u>	_____
Number of banner pages . . . . .	<u>1</u>	1-9
Job application required . . . . .	<u>*NO</u>	*NO, *YES

Figure 3-11. \*LASTWRK Schedule Code Example

## \*ALTERNATE

The \*ALTERNATE schedule code specifies that the job is to run when a regular job ends abnormally and has this job defined as its alternate job. Alternate jobs, like dependent jobs, do not have a scheduled time and date since they are dependent on the occurrence of an event. Alternate jobs are specified for a job on the second page of the Add Job display.

An alternate job cannot have an alternate job and must exist before it can be referred to by another job. Alternate jobs can be requested from a single job or from a job group. If the alternate job is assigned to a job group, then the group must exist.

Following is an example of a job using the \*ALTERNATE scheduling code. The job is called ALT1.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . ALT1      Name
Group name. . . . . *NONE    Name, *NONE
Group sequence . . . . . 0      Number
Application . . . . . *NONE    Name, *NONE, F4 list
Schedule code . . . . . *ALTERNATE Name, *DAILY, F4 list
Text . . . . . Example of *ALTERNATE schedule code

```

Figure 3-12. \*ALTERNATE Schedule Code Example

In the previous example, the job ALT1 is set up as an alternate job. In the following example, ALT1 is the alternate job that runs if the daily backup job DAILYBKUP ends abnormally. The setup for DAILYBKUP is shown in the following Add Job display, as well as the second page of the Add Job display for the job DAILYBKUP, for which ALT1 is the alternate job.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . DAILYBKUP      Name
Group name . . . . . *NONE         Name, *NONE
Group sequence . . . . . 0         Number
Application . . . . . *NONE        Name, *NONE, F4 list
Schedule code . . . . . *DAILY     Name, *DAILY, F4 list
Scheduled times . . . . . 24:00 0:00 0:00 0:00 0:00
                               0:00 0:00 0:00 0:00 0:00
Calendar . . . . . *NONE          Name, *NONE, F4 list
Holiday calendar . . . . . *NONE   Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE    Name, *NONE, F4 list
Days . . . . . *SUN *MON *TUE *WED *THU *FRI *SAT
Text . . . . . Set up for daily backup with alternate job

```

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Remote location name . . . . . *JOBCTL
Start time and date:
Beginning time . . . . . *NONE      Time, *NONE
Beginning date . . . . . *NONE     Date, *NONE
End time and date:
Ending time . . . . . *NONE        Time, *NONE
Ending date . . . . . *NONE       Date, *NONE
Maximum run time . . . . . *NOMAX  Minutes, 1-9999, *NOMAX
Pager recipient normal . . . . . *JOBCTL Name, *NONE, *JOBCTL
Pager message . . . . . *JOBCTL
Pager recipient abnormal . . . . . *JOBCTL Name, *NONE, *JOBCTL
Pager message . . . . . *JOBCTL
Alternate job . . . . . ALT1       Name, *NONE, F4 for list
Group name . . . . . *NONE        Name, *NONE
Group sequence . . . . . 0        Number
Report distribution ID . . . . . *NONE Name, *NONE, F4 for list
Recovery action . . . . . *JOBCTL *SBMRLS, *SBMHLD, *NOSBM...

```

Figure 3-13. Alternate Job Example

## \*NONE

Jobs with a schedule of \*NONE do not have a schedule and must be started either with a job dependency or manually. \*NONE is used for all subordinate group jobs (sequence number greater than 1).

Following is an example of a group called PAYROLL, which is made up of two jobs, PAYEDIT and PAYUPD. PAYEDIT is assigned the \*DAILY schedule code and PAYUPD is assigned \*NONE, indicating that it uses the schedule assigned to PAYEDIT. Note that PAYUPD is scheduled to run once a week on Friday.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . PAYEDIT      Name
Group name. . . . . PAYROLL     Name, *NONE
Group sequence . . . . . 1       Number
Application . . . . . *NONE      Name, *NONE, F4 list
Schedule code . . . . . *DAILY   Name, *DAILY, F4 list
Scheduled times . . . . . 24:00 0:00 0:00 0:00 0:00
                          0:00 0:00 0:00 0:00 0:00
Days . . . . . *SUN *MON *TUE *WED *THU *FRI *SAT
Calendar . . . . . *NONE        Name, *NONE, F4 list
Holiday calendar . . . . . *NONE  Name, *NONE, F4 list
Fiscal calendar . . . . . *NONE   Name, *NONE, F4 list
Text . . . . . Daily payroll edit

```

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . PAYUPD      Name
Group name. . . . . PAYROLL     Name, *NONE
Group sequence . . . . . 10      Number
Application . . . . . *NONE      Name, *NONE, F4 list
Schedule code . . . . . *NONE    Name, *DAILY, F4 list
Text . . . . . Weekly payroll update

```

Figure 3-14. Using \*NONE in a Job Group



---

## Chapter 4. System Controls

Job Scheduler provides system-wide controls and job controls that simplify and control the way in which Job Scheduler functions. System controls can range from starting and stopping the job monitor (the process that determines what jobs Job Scheduler needs to submit), to what are the working days of the week used by Job Scheduler for the enterprise. System controls can be very powerful in terms of overall Job Scheduler function and should only be changed when the consequences are understood.

---

### Setting Up System Controls

The System Controls menu can be accessed from the Job Scheduler main menu (Option 5) or by using a command (GO JSSYSCTL). The System Controls Menu is shown below:

```
JS                               Job Scheduler for OS/400                               System:  RCHAS400
Select one of the following:
    1. Work with jobs
    2. Job history information
    3. Job reports
    4. Job controls
  --> 5. System controls
    10. Report distribution
```

```
JSSYSCTL                          System Controls                          System:  RCHAS400
Select one of the following:
    1. Start monitor
    2. End monitor
    3. Change system controls
    4. Work with function authorities
    5. Change job authority
    6. Change pager command
    7. Work with OS/400 job schedule entries
    8. Reset jobs
    9. Start console monitor
```

Figure 4-1. System Controls Menu

## Starting the Job Monitor

The Job Scheduler job monitor is a special job that constantly monitors the Job Scheduler list of scheduled jobs to determine the jobs that are to run based on the scheduled date and time. When Job Scheduler is installed, a job called QIJSSCD will become active in the QSYSWRK subsystem. QIJSSCD is the monitor job. This control can be very important to your operation. If the monitor job is not active, scheduled jobs will not be submitted at their scheduled times.

For instance, in your operation you could use Job Scheduler to schedule backup jobs at 10:00 p.m. every night. The backups finish at approximately 4:00 a.m. and the system is ready for online order entry at 7:00 a.m. If your AS/400 “went down” at 6:00 p.m. and was not returned to operational status until 6:00 a.m. the next morning, the scheduled backups have not been processed. If the monitor immediately began processing when the AS/400 system returned to operational status, Job Scheduler would review its schedule for jobs that required processing. Because the backup that is scheduled for 10:00 p.m. has not run, Job Scheduler would begin processing the backup immediately. If the backups run for 6 hours, the online system would not be available for online order entry until this process is completed.

To start the monitor, select Option 1 from the System Controls menu. The Review Pending Jobs display provides the option of reviewing pending jobs prior to starting the Job Scheduler monitor.

```
JS                               System Controls                               System:  RCHAS400
Select one of the following:
--> 1. Start monitor
    2. End monitor
    3. Change system controls
    4. Work with function authorities
    5. Change job authority
    6. Change pager command
    7. Work with OS/400 job schedule entries
    8. Reset jobs
    9. Start console monitor

Review Pending Jobs                               RCHAS400
Type choice, press Enter.
Review jobs . . . . . *YES          *YES, *NO
```

Figure 4-2. Review Pending Jobs Display

**Note:** You will only be taken to the Review Pending Jobs display when there are jobs pending. If there are no jobs ready for submission, you will receive the message, Job Scheduler monitor started. If you select Option 1 (Start monitor) and the monitor is active, you will receive the message Job Scheduler already active.

You are provided with two operational choices in the Review Pending Jobs display:

- **\*YES** - This choice is the default and does not start the monitor immediately. When you press the Enter key, you are taken to the Work with Jobs display where you can review the scheduled jobs and reset the ones that you do not want to run when the monitor is started. After resetting the appropriate jobs, you can start the monitor.
- **\*NO** - This choice starts the monitor immediately without reviewing pending jobs. Any jobs that have not been run will be run in the order in which they are scheduled.

**Note:** Care should be taken before using \*NO, since during the time that Job Scheduler was not active, there are jobs that would have submitted. If Job Scheduler starts, it will submit these jobs. It is always better to review these jobs prior to restarting Job Scheduler. You can review the job schedule by date using the Work with Jobs using Job Scheduler (WRKJOBJS) command, SEQ(\*DATE).

---

## Ending the Job Monitor

You end the Job Scheduler monitor by selecting Option 2 (End Monitor) on the System Controls menu. If the monitor is active, you will get a message Job Scheduler monitor ending. If the monitor is not currently active, you will get the message Job Scheduler monitor not ended, monitor not active.

---

## Changing System Controls

The Change System Controls display is used to change values that are used in Job Scheduler to control basic operational functions. For instance, you establish who “owns” the Job Scheduler monitor and its associated library list, severity levels for notifications, how history is purged, and what are the working days of the week. Changing these values can affect how Job Scheduler functions and they should only be changed when the consequences are fully understood.

```

Change System Controls                                     RCHAS400

Type choices, press Enter.

Job monitor user. . . . . *CURRENT Name, *CURRENT
Job monitor library list . . . . *SYSVAL Name, *SYSVAL, F4 List
Message queue for notification. . . QSYSOPR Name
  Library . . . . . *LIBL Name, *LIBL
Message severity for notification . 40 00-99
Output queue . . . . . *PRTF Name, *PRTF
  Library . . . . . *LIBL Name, *LIBL
Remove history type . . . . . *OCCUR *DAYS, *OCCUR
History days/occurrences to keep. . 180 Number, 1-999
Log entries to keep . . . . . 180 Number, 1-999
Held job notification . . . . . *NO *NO, *YES
Working days . . . . . *MON *TUE *WED *THU *FRI ____ ____
Number of banner pages . . . . . 1 1-9
Job application required . . . . . *NO *NO, *YES

```

Figure 4-3. Change System Controls Display

Some of the key functions available in the Change System Controls display are:

**Job monitor user:** You can specify the name of the user profile to be used as the owner of the monitor job. All jobs that have \*CURRENT as the user profile will use the user profile of the monitor job. You can set up a general user profile (for example JSUSER) and grant authority to all users who are authorized to start the job monitor.

**Job monitor library list control:** You can specify the name of the library list that Job Scheduler uses for its job monitor. The Job Scheduler job monitor runs constantly to submit jobs according to the scheduled times and dates.

**Note:** This library list is not the library list within jobs submitted by Job Scheduler. It is the library list that is used to find such things as job descriptions and job queues when Job Scheduler jobs are submitted that are not qualified with a library at the time of submission.

**Message queue for notification:** You can specify the name of the message queue that you want to receive Job Scheduler messages. The message queue receives messages that equal or exceed the user-defined severity level specified in the *Message severity for notification* field. Messages that are less than the user specified severity level are only routed to the Job Scheduler log.

**Output queue:** You can specify the qualified name of the output queue that is used for output print jobs. The output queue that you specify is the default output queue for all Job Scheduler print requests.

**Remove history type:** You can specify how Job Scheduler history records are to be removed. History removal occurs automatically based on what you specify in this field. The *Remove history type* prompt works in conjunction with *History day/occurrences to keep* prompt. You can remove history based on the number of occurrences or the number of records. You specify which method you are using in the *Remove history type* prompt. For instance, if you specify \*OCCUR, and the

value in the *History day/occurrences to keep* prompt is 100, then 100 history occurrences for a job are kept in history. When the next history entry is made, the oldest history entry is removed. If you had specified *\*DAYS* in the *Remove history type* and the value in the *History day/occurrences to keep* prompt is 180, then history for a job is kept for 180 days. After the entry exceeds 180 days of age, it is removed from history.

**Held job notification:** You can specify whether Job Scheduler should send a message to the notification message queue when a job that is scheduled to run has a job status of *\*HELD*.

**Working days:** You can specify the days of the week that you consider as working days. The possible values are *\*SUN*, *\*MON*, *\*TUE*, *\*WED*, *\*THU*, *\*FRI*, and *\*SAT*. The days that you specify here as working days are used in conjunction with the calendar features of Job Scheduler. By not including a day in the list of working days, you exclude it from the list.

**Number of banner pages:** You can specify the number of banner pages that you want to print for each spooled file created in conjunction with report distribution. You can specify from 0 to 9 banner pages per spooled file. The default number of banner pages is 1.

**Job application required:** You can specify whether it is required that you enter an application when adding a job. If you specify *\*YES*, whenever you are adding a job using either the Add Job using Job Scheduler (*ADDJOBJS*) command or the Add Job display, you are required to enter an application name. If you specify *\*NO*, an application name is not required.

**Time period for schedule interrupt:** You can specify a time period in the system controls that you want to interrupt normal Job Scheduler processing. You specify a date and time to start the interrupt period and a date and time to end the interrupt period. During the interruption range, jobs that are processing are allowed to complete. Jobs that did not start because of the schedule interrupt are reset. If a group job is running, the job in the group that is processing is allowed to complete, but subsequent group jobs are not started. You can submit jobs manually during a schedule interrupt.

---

## Changing Function Authority

Job Scheduler functional authority allows you to maintain complete control of who can perform various job and system related functions. The Work with Function Authorities display (shown following) allows you to specify who can perform any Job Scheduler function ranging from adding a job to assignment of report distribution IDs. Functions are assigned to individuals or groups of individuals by using the various keywords available through Job Scheduler.

```

                                Work with Function Authorities                                RCHAS400

Type options, press Enter.
2=Edit function authority

Opt   Function   Text
-     *ADDJOB   Add job
-     *CAPTURE  Capture job information
-     *CHGDTA   Change parameter data
-     *CHGJOBDF  Change job defaults
-     *CHGSYSCTL Change system controls
-     *CMDLINE  Command line
-     *DSPHST   Display history
-     *DSPLOG   Display log
-     *ENDMON   End monitor
-     *NEWJOB   New job authorities
-     *PRTRPTDST Print report distribution reports
-     *PRTSCD   Print schedule
-     *RESET    Reset jobs
-     *RMVHST   Remove history
-     *RMVLOGE  Remove log entries
-     *SNDRPT   Send reports

                                                More...

```

Figure 4-4. Work with Function Authorities

To change or view the current authorities to any of the functions, type a 2 (Edit Function Authorities) and press the Enter key. For instance, if you selected \*ADDJOB (Add job), you would go to the following display.

```

                                Edit Function Authority                                RCHAS400

Function name. . . . . : *ADDJOB
Text . . . . . : Add Job

Type changes to current authorities, press Enter.

User      Function
          Authority
*PUBLIC   *USE
STEVEN    *EXCLUDE
TONY      *USE

```

Figure 4-5. Edit Function Authorities

In this example, the add job function has been allowed for use by the public, which implies all users. The only exception is for Steven, who has been excluded from adding a job. For Steven, this means that he could not use the Add job option on the Work with Jobs display or the ADDJOBJS command. The entry for Tony is not necessary since he is included in the more general \*PUBLIC keyword. If you wanted to add a user you would press F6 (Add new users).

Any of the functions can be similarly described. This capability gives the Job Scheduler administrator complete control over who can or cannot perform any function in Job Scheduler.

Table 4-1 (Page 1 of 2). Function Authorities. Shows which menus, displays and commands are affected by the specified function authority.

Function	Description	Command	Menu	Display	Option
*ADDJOB	Add job	ADDJOBJS	CMDJS	-	1
		-	-	Work with Jobs	1
		CPYJOBJS	CMDJS	-	3
*CAPTURE	Capture job information	STRJS	CMDJS	-	48
*CHGDTA	Change parameter data	CHGDTAJS	CMDJS	- Work with Parameters	41 2
*CHGJOBDF	Change job defaults	-	JSJOBCTL	- Work with Jobs	1 F10
*CHGSYSCTL	Change system controls	-	JSSYSCTL	-	3
*CMDLINE	Command line	-	-	Work with jobs	-
*DSPHST	Display history	DSPHSTJS	CMDJS	-	20
			JSRPT	-	5,6,7
			-	Work with History	5
*DSPLOG	Display log	DSPLOGJS	CMDJS	-	30
			JSHST	-	2
			-	Work with Jobs	20
*ENDMON	End job monitor	ENDJS	CMDJS	-	43
			JSSYSCTL	-	2
*PRTRPTDST	Print report distribution reports	-	JSRPTDRPT	-	1,2,3
*PRTSCD	Print schedule	PRTSCDJS	CMDJS	-	44
			JSRPT	-	1
*RESET	Reset jobs	-	JSSYSCTL	-	7
*RMVHST	Remove history	RMVHSTJS	CMDJS	-	21
			JSHST	-	3
			-	Work with History	4
*RMVLOGE	Remove log entries	RMVLOGEJS	CMDJS	-	31
			JSHT	-	4
*SBMCONCMD	Submit console command	SBMCMDJS	-	-	-
*SNDRPT	Send reports	SNDRPTJS	CMDJS	-	46
			JSRPTDST	-	1
*STRCONMON	Start console monitor	-	JSSYSCTL	-	8
*STRMON	Start job monitor	STRJS	CMDJS	-	48
			JSSYSCTL	-	1

Table 4-1 (Page 2 of 2). Function Authorities. Shows which menus, displays and commands are affected by the specified function authority.

Function	Description	Command	Menu	Display	Option
*WRKAPP	Work with applications	-	JSJOBCTL	- Select Application	6 F9
*WRKCAL	Work with calendars	-	JSJOBCTL	- Select Calendar	2 F9
*WRKFCT	Work with function authorities	-	JSSYSCTL	- Work with Jobs	4 13
*WRKFSCCAL	Work with fiscal calendars	-	JSJOBCTL	- Select Fiscal Calendar	4 F9
*WRKHDYCAL	Work with holiday calendars	-	JSJOBCTL	- Select Holiday Calendar	3 F9
*WRKHST	Work with history	- WRKHSTJS	JSHST CMDJS	- - Work with Jobs	1 22 19
*WRKLIBL	Work with library lists	-	JSJOBCTL	- Select Library List	5 F9
*WRKPRM	Work with parameters	-	JSJOBCTL	- Change Command List Change LDA Parameter List	7 F7 F13
*WRKRCP	Work with recipients	-	JSRPTCTL JSRPTDRPT	- - Select Recipients	2 4 F9
*WRKRPTDST	Work with report distribution IDs	-	JSRPTCTL	- Select Report Distribution ID Work with Jobs	1 F9 23

One functional authority that behaves differently is the \*NEWJOB function. This functional authority is the authority assigned to all new jobs. If you select \*NEWJOB, you are taken to the Edit Function Authority display.

**Note:** The job default for the new job is \*SYSTEM, which is the system set of job defaults.

```

                                Edit Function Authority                                RCHAS400

Function name . . . . . : *NEWJOB
Job default . . . . . : *SYSTEM

Text . . . . . : New Job Authorities

Type changes to current authorities, press Enter.

      Job
User   Authority  Submit  Mgt  Aut  Display  Cpy  Update  Remove
*PUBLIC *ALL          X     X   X    X       X    X       X
HEATHER *USRDFN        X     X   X    X       X    X       X
JOE     *ALL          X     X   X    X       X    X       X
JOY     *EXCLUDE        X     X   -    X       X    X       X
PSF     *ALL          X     X   -    X       X    X       X
QSYSOPR *OPER          X     X   -    X       -    -       -

```

Figure 4-6. Function Authority for New Jobs

To further examine each of the authorities, use the help information provided on the display itself.

## Changing Job Authority

Job authority is a level of granularity deeper than functional authority. Job authority allows the Job Scheduler administrator to assign functional authority at the job level. For instance, you might want a user to be able to change all jobs with the exception of the payroll application. In this case you could use the Change Job Authority using Job Scheduler (CHGAUTJS) command to enforce this requirement. The Change Job Authority using Job Scheduler command is reached by using Option 5 of the System Controls menu or by typing the command on a command line.

```

                                Change Job Authority using JS (CHGAUTJS)                                RCHAS400

Type choices, press Enter.

Job entry:
Job name . . . . . PAYTRANS  Name, generic*, *ALL
Group name . . . . . PAYROLL  Name, generic*, *ALL, *NONE
Group sequence . . . . . 30    1-99, *ALL, *NONE
User . . . . . BKY           Name, *PUBLIC
Application . . . . . PAYROLLAP Name, generic*, *ALL
Authority . . . . . *CHANGE   *ALL, *CHANGE, *OPER, *USE...

```

Figure 4-7. Changing Job Authority

In this example user BKY is given change authority to the job PAYTRANS, which is a job in the group called PAYROLL which is a part of the payroll application.

Typically, the CHGAUTJS command is a global command to use when changing job authorities on multiple jobs. In most instances, you will use Option 13 (Edit job authority) on the Work with Jobs display to change job authority at the individual job level.

---

## Setting Up Paging

The paging function in Job Scheduler allows you to send a pager message to a recipient you specify based on the normal or abnormal completion of a job. To facilitate the use of various paging software packages, Job Scheduler allows you to specify the paging command to be used. When you take Option 6 (Change pager command) on the System Controls menu, you are taken to the Change Pager Command using Job Scheduler (CHGPGRJS) command where you can enter a paging command based on the paging software that is installed on your system.

---

## Using the Change Pager Command using Job Scheduler

An example paging command is shown below. The command is the Send MNA Message (SNDMNASMSG) command used with PagerPac\*\*.

```
Change Pager Command using JS (CHGPGRJS)          RCHAS400

Type choices, press Enter.

Pager command . . . . . SNDMNASMSG TOUSER(&RCP) MSG('&MSGTXT')
_____
_____
_____
_____
_____
```

Figure 4-8. Changing the Paging Command

In this example there are two substitution variables, &RCP (the recipient of the pager message) and &MSGTXT (the message that you are sending). The substitution values for these substitution variables come from the ADDJOBJS, CHGJOBJS and SBMJOBJS commands, PGRRCPNORM and PGRRCPABN parameters.

---

## Adding an OS/400 Job Schedule Entry to Job Scheduler

You may have OS/400 job schedule entries that you want to add to Job Scheduler. This can be accomplished by using Option 7 (Work with OS/400 job schedule entries) on the System Controls menu. When you select this option, you are taken to the Work with OS/400 Job Schedule Entries display where all of the OS/400 job schedule entries are listed. You can add an OS/400 job schedule entry to Job Scheduler by selecting Option 8 (Add to Job Scheduler) for those entries.

In most cases, an OS/400 job schedule entry will move across to Job Scheduler with no changes. There may be instances where you must change the definition to add the entry to Job Scheduler. In those instances, you are given messages which suggest the method and the schedule code to use to successfully add the entry to Job Scheduler.

When an OS/400 job schedule entry is added to Job Scheduler, the status of the OS/400 job schedule entry is set to "hold." You should review the OS/400 job scheduler entries periodically to determine if you should remove jobs that have been added to Job Scheduler.

The following displays illustrate the steps necessary to add an OS/400 job schedule entry to Job Scheduler. In the example, job ABACKUP is added to Job Scheduler.

```

JSSYSCTL                System Controls                               System:  RCHAS400

Select one of the following:

    1. Start monitor
    2. End monitor
    3. Change system controls
    4. Work with function authorities
    5. Change job authority
    6. Change pager command
--> 7. Work with OS/400 job schedule entries
    8. Reset jobs
    9. Start console monitor

```

```

                                Work with OS/400 Job Schedule Entries          RCHAS400
                                                                2/20/95 13:56:45

Type options, press Enter.
  2=Change  3=Hold  4=Remove  5=Work with  6=Release
  8=Add to Job Scheduler

Opt Job      Status  -----Schedule-----  Frequency  Recovery  Next
-   AAAJOB   SCD    *USRDFN   15:00:00  *WEEKLY   *SBMRLS   Submit
8   ABACKUP  SCD    *ALL      2:00:00   *WEEKLY   *SBMRLS   Date
-   DOUPDATE SCD    *ALL      6:45:00   *WEEKLY   *SBMRLS   2/21/95
-   SPECIAL  HLD    *UDRDFN   1:01:01   *MONTHLY  *SBMRLS   2/21/95
-   EOM      HLD    1/31/95  13:46:51  *MONTHLY  *SBMRLS   3/06/95
-   ONCEM    HLD    *MONTHSTR 14:15:15  *MONTHLY  *SBMRLS   3/31/95
-   ORDENT   HLD    *MONTHEND 14:15:31  *MONTHLY  *SBMRLS   3/01/95
-   GLSPEC   HLD    *NONE     16:37:09  *ONCE     *SBMRLS   2/28/95
-   APSPEC   HLD    2/24/95  23:00:00  *ONCE     *SBMRLS   2/20/95
-

```

```

                                Add Job using Job Scheduler (ADDJOBJS)

Type choices, press Enter.

Job entry:
Job      . . . . . > ABACKUP      Name
Group    . . . . . *NONE          Name, *NONE
Group sequence . . . . . *NONE    1-99, *NONE
Application . . . . . *JOBCTL    *JOBCTL, *NONE
Schedule code . . . . . > *DAILY  *DAILY, *CALENDAR, *DATE...
Scheduled time . . . . . > 0200   Time (HHMM), 0001-2400
      + for more values
Calendar . . . . . *JOBCTL    *JOBCTL, *NONE
Holiday calendar . . . . . *JOBCTL *JOBCTL, *NONE
Fiscal calendar . . . . . *JOBCTL *JOBCTL, *NONE, FC
Days . . . . . > *ALL          *ALL, *MON, *TUE, *WED...
      + for more values

```

Figure 4-9. Adding a Job From the OS/400 Job Scheduler to Job Scheduler

---

## Resetting Job Scheduler

If you have the proper authority, you can perform a mass reset of all jobs within Job Scheduler. The reset restores dependencies and processing status. This is a major issue in a system recovery scenario where SNA backups have captured Job Scheduler in an active state.

---

## Using Console Monitoring

The Console Monitor display enhances your ability to schedule commands that have to run in a restricted environment. Console monitoring allows you to put the console in a monitored state, but further allows you to suspend the monitored state, enter OS/400 commands as required and then return the console to a monitored state. When console monitoring is started, you can schedule commands to process at a later time using the Submit Console Command (SBMCMDJS) command in the command list of a Job Scheduler job. The job controls bringing the system down into a restricted state and bringing it back up. It is recommended that you do ENDSBS \*CNTRLD 120 to give the job that sends the commands to the monitor time to complete.

When you press F9, you are taken to the Console Monitor Security display where the current user ID is displayed. To interrupt the console monitor and take the console out of a monitored state, the correct user password for the current user must be entered. If the correct password is entered, system commands can be entered into a command line. When you return to the Console Monitor, the console monitoring process resumes. If the console is in use, you cannot perform the F9 command line function.

Console monitoring must be started from the console. If you attempt to start console monitoring from any other workstation, you get the message Not in correct environment to start console monitor.

To start the console monitor from the console:

1. Type G0 JSSYSCTL from the command line.
2. Select option 9 (Start console monitor) from the System Controls menu and press Enter.

You have put the console into a monitored state, awaiting the arrival of a command from Job Scheduler.

If you want to interrupt the console monitoring process and take the console out of monitored state, press F9. You see the Console Monitor Security display where you are asked to enter your password. When you enter your password, you see a popup window where you can enter system commands.

It is important that after completing your use of the command line that you return the console to a restricted state. You do this by pressing F12 (Cancel). When you press F12, you see the Console Monitor Exit display, which like the Console Monitor Security display, requires you to enter the correct password for the displayed user identification. When you enter the correct password, the current job is signed off.

## Securing the Console Monitoring Function

When you selection option 9 (Start console monitoring) from the System Controls menu, it is possible that a user could use the system request function to leave console monitoring and assume full system operator authority in other areas of the system. A method to prevent this from happening is to create a user profile called QCONMON with a password that you select. You would assign this user profile the required authorities and have it process the same program (QIJSCCON) as does option 9. You would sign on to the system console using QCONMON and you would immediately see the Console Monitor display. If a user tries to leave console monitoring using the system request function, they would receive an error message. When leaving the monitor normally, the session will be signed off automatically.

A summary of the coding to set up the user profile follows:

```
CRTUSRPRF USRPRF(QCONMON) PASSWORD(XXXXXX)
      INLPGM(QIJS/QIJSCCON)
      INLMNU(*SIGNOFF)
      SPCAUT(*ALLOBJ *SAVSYS *JOBCTL) <this is defined by you>
```

---

## Chapter 5. Job Controls

Job Scheduler provides you with a large amount of flexibility in establishing job control for jobs that you are setting up in Job Scheduler. From the Job Scheduler Job Controls menu you can work with job defaults, work with calendars that are used by jobs, work with library lists, applications, parameters, job submission information, and so on. Additionally, you can print several reports that give you a printed record of the current values that you have established for your jobs.

---

### Using the Job Controls Menu

The Job Controls menu is accessed from the main menu with Option 4 or can be accessed by keying GO JSJOBCTL on any command line.

```
JS                               Job Scheduler for OS/400                               System:  RCHAS400
Select one of the following:
    1. Work with jobs
    2. Job history information
    3. Job reports
  --> 4. Job controls
    5. System controls
    10. Report distribution

JSJOBCTL                         Job Controls                               System:  RCHAS400
Select one of the following:
    1. With with job defaults
    2. Work with calendars
    3. Work with holiday calendars
    4. Work with fiscal calendars
    5. Work with library lists
    6. Work with applications
    7. Work with parameters
    10. Print calendars
    11. Print holiday calendars
    12. Print fiscal calendars
    13. Print library lists
    14. Print applications
    15. Print parameters
```

Figure 5-1. Job Scheduler Job Controls Menu

## Working with Job Defaults

Selecting Option 1 (Work with job defaults) takes you to the Work with Job Defaults display. From this display you can change the system or application job defaults, display the current system or application job defaults, edit the authority assigned to the job defaults, and change the pre- or post-command list for job defaults.

There are two types of job defaults that can be listed in the *Job default* column. The first type is a standard set of job defaults that is represented by the special value \*SYSTEM. These defaults are assigned to any job that is not designated to use the job defaults associated with an application. The second type of job defaults is the name of an application. Application names are added to the Work with Job Defaults display when an application is added to Job Scheduler.

The relationship between applications and job defaults is shown in the following two displays.

```
Work with Applications                                RCHAS400
Position to . . . . . Starting characters
Type options, press Enter.
 1=Add  2=Change  3=Copy  4=Remove  5=Display  6=Work with jobs
 7=Hold application jobs  8=Release application jobs
 9=Change application information
Opt  Application  Text
1    ACCTSPAY
    GENLEDG      Corporate General Ledger System
    PAYROLL      Regional Payroll Information
```

Figure 5-2. Work with Applications Display

In the preceding Work with Applications display, the application ACCTSPAY was added using option 1 (Add). There are two other applications, GENLEDG and PAYROLL. Each of these applications is added by Job Scheduler as job defaults in the Work with Job Defaults display. This allows you to apply job defaults by application to jobs that you add for an application.

```

                                Work with Job Defaults                                RCHAS400
Position to . . . . .                Starting characters
Type options, press Enter.
  2=Change  5=Display  7=Edit function authority
  8=Change pre command list  9=Change post command list

Job
Opt Default      Text
*SYSTEM
ACCTSPAY
GENLEDG          Corporate General Ledger System
PAYROLL          Regional Payroll Information

```

Figure 5-3. Work with Job Defaults Display

## Changing Job Defaults

Option 2 (Change) is used to change the job defaults that you have set up. When you press Enter, you see the Change Job Defaults display. Only the first display of the Change Job Defaults display is shown. There are two additional displays that you can review by using the roll keys. The second and third displays contain job submission information.

**Note:** You can display the job defaults by using option 5 (display).

```

                                Change Job Defaults                                RCHAS400
Type choices, press Enter.
Application . . . . . ACCTSPAY      Name, *NONE, F4 for list
Schedule code . . . . . *DAILY      Name, *CALENDAR, F4 for list
Calendar . . . . . *NONE           Name, *NONE, F4 for list
Holiday calendar . . . . . *NONE    Name, *NONE, F4 for list
Fiscal calendar . . . . . *NONE     Name, *NONE, F4 for list
Remote location name . . . . . *LCL
Pager recipient normal . . . . . *NONE      Name, *NONE
Pager message . . . . .
Pager recipient abnormal . . . . . *NONE      Name, *NONE
Pager message . . . . .
Use job default commands. . . . . *NONE      *NONE, *ALL, *PRE, *POST

```

Figure 5-4. Changing Job Defaults

Parameters available in the Change System Controls display are:

**Application:** You can specify the name of the user application that is to be the default application for jobs that you add. An example of an application would be Payroll, Accounting, and so on.

**Schedule code:** You can specify the schedule code that is to be the default schedule code for any jobs that you add. In the preceding Change Job Defaults display, the schedule code \*DAILY is the default. When you are adding a new job to Job Scheduler using the job default ACCTSPAY, the default will be \*DAILY.

**Calendar:** You can specify the calendar that is to be the default for any jobs that you add using the specified job default. Holiday calendar and fiscal calendar defaults are handled the same.

**Remote location name:** You can specify the remote location name of the system that you want to be the default Job Scheduler system. You can specify the local system as \*LCL or the name of another system in the network.

**Pager recipient normal/abnormal:** You can specify who pager messages are sent to for normal or abnormal completion messages. You can also specify the message that is to be sent for a normal or abnormal completion.

**Use job default commands:** You can specify the job default commands that you want to use with the job when it runs. Several special values can be used. They are:

- \*NONE, do not use any job default commands
- \*ALL, use all job default commands
- \*PRE, use only pre command job default commands
- \*POST, use only post command job default commands.

Several of the fields on the first display of the Change Job Defaults display have the F4 (list) function available. This feature can be very useful and makes it easy to go to a complete list of all possible values for a field without having to exit the Change Job Defaults display.

For instance, if you want to select a schedule code as the Schedule code default, but cannot remember the name, you can press F4 to see the following Select Schedule Code display.

```

Change Job Defaults                                     RCHAS400

Type choices, press Enter.

Application . . . . . *ACCTSPAY Name, *NONE, F4 for list
Schedule code . . . . . *DAILY Name, *DAILY, F4 for list
Calendar . . . . . *NONE Name, *NONE, F4 for list
Holiday calendar . . . . . st
Fiscal calendar . . . . . : Select Schedule Code : st
Remote location name . . . . . :
Pager recipient normal . . . . . : Type options, press Enter. : st
Pager message . . . . . : 1=Select :
Pager recipient abnormal . . . . . : Opt Schedule code : st
Pager message . . . . . : *CALENDAR :
Use job default commands . . . . . : - *DAILY : st
: - *DAY :
: - *DATE :
: - *NUMDAY :
: More... :
: F12=Cancel :
: More... :
:.....:

```

Figure 5-5. Change Job Defaults Display - F4 List

You can then scroll through the schedule codes in the pop-up window, type a “1” by the schedule code that you want to select and press the Enter key. The selected schedule code will be transferred to the *Schedule code* field. In some cases, such as Application, there is an F9 function available that takes you to the “Work with” function so that you can add additional members to the list and then return to the Change Job Defaults display.

## Edit Function Authority

Option 7 (Edit function authorities) allows you to set up functional authorities for each of the job defaults on the work with Job Defaults display. When you select Option 7, you see the Edit Function Authority display where you can specify the authorities for new jobs for the selected job default. See “Changing Function Authority” on page 4-5 for further information on functional authorities.

## Pre and Post Command Lists

Option 8 and 9 (Change pre and post commands) allow you to create or change a list of commands that you want to process before or after job defaults.

In the following displays, pre and post commands are illustrated for the job default ACCOUNTING which is the job default associated with accounting application. In the example, the pre commands prepare the accounting application for processing and the post commands send a message to indicate that the processing completed.

```

Change Pre Command List                                     RCHAS400
Job default . . . . . : *SYSTEM
Text . . . . . : *NONE

Type choices, press Enter.

Seq   Command

10   CALL PGM(PREPACTG) /* PREPARE ENVIRONMENT FOR ACCOUNTING JOBS */

Change Post Command List                                    RCHAS400
Job default . . . . . : *SYSTEM
Text . . . . . : *NONE

Type choices, press Enter.

Seq   Command

10   SNDMSG MSG('ACCOUNTING JOBS ARE COMPLETE') TOUSR(TONY)

```

Figure 5-6. Pre and Post Commands for a Job Default

---

## Setting Up Calendars

Job Scheduler has a very powerful calendar function. There are three types of calendars and each performs different functions.

- Calendars (including reference calendars)
- Holiday Calendars
- Fiscal Calendars

**Note:** If it is necessary to change a calendar, it may be necessary to Reset (reschedule) jobs that use the calendar that you have changed. You can do this by using Option 6 (Work with jobs) to work with jobs that use the calendar that you have changed.

## Calendars

Calendars are user-defined groupings of days that are used to establish the days of the year on which Job Scheduler processing is allowed. Calendars can be used in two ways:

- Calendars can be defined to be used with the \*CALENDAR schedule code.
- Calendars can be defined to be used with all other schedule codes except \*NONE, \*ALTERNATE, and \*NUMDAY. When you use a calendar in conjunction with a schedule code (other than \*CALENDAR), the calendar days you specify are added to the days that a job processes. For instance, if you were using schedule code \*MONTHEND and also specified a calendar called JULY15, which called for processing on July 15, the job would run the last day of each month plus on July 15.

A calendar that contained all Mondays through Fridays for the year would be an example of a calendar. Another example would be a calendar that contained all Mondays, Wednesdays, and Fridays for the year. You can set up a calendar for every other Monday, and so on. Keywords, such as \*MON and \*TUE, are provided to assist you in setting up calendars quickly and efficiently.

## Using the Work with Calendars Display

Following is the Work with Calendars display.

```

                                Work with Calendars                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add  2=Change  3=Copy  4=Remove  5=Display  6=Work with jobs

Opt  Calendar      Text
-    _____
-    DAILY          Daily run calendar
-    EVRYOTHMON     Every other Monday
-    EXTRASAT       Extra Saturday processing for DAILY
-    INVENTORY      Dates for inventory jobs

                                                                Bottom

```

Figure 5-7. Work with Calendars Display

Additionally, you can copy calendars or work with all jobs that use a specified calendar. Following is a calendar (DAILY) that includes every Monday through Friday.

```

                                Change Calendar                                RCHAS400
Calendar name . . . . . : DAILY          Position to . . . . . _____
Reference calendar . . . : EXTRASAT     Name, *NONE, F4 for list
Text . . . . . : Daily run calendar

Type options, press Enter.
  1=Add  4=Remove

Opt  Date
-    _____
-    *MON
-    *TUE
-    *WED
-    *THU
-    *FRI

                                                                Bottom

```

Figure 5-8. Change Calendar Display

Another type of calendar included in the list of calendars is called a reference calendar. Reference calendars are used to add a date to another calendar. For instance, if you wanted to process Job Scheduler jobs on the last Saturday of each quarter for 1994 in addition to the days specified in the DAILY calendar, you could set up a calendar called EXTRASAT.

```

                                Display Calendar                                RCHAS400
Calendar name . . . . . : EXTRASAT
Reference calendar . . : *NONE
Text . . . . . : Extra Saturday processing for DAILY

    Date
    3/26/94
    6/25/94
    9/24/94
    12/31/94

                                                                Bottom

```

Figure 5-9. Example of Reference Calendar

**Note:** If you had entered the dates without a year, the processing would occur on the specified dates in 1995, 1996 and so on, which may or may not be on a Saturday. Further note that you can have a reference calendar for a reference calendar.

## Setting Up Holiday Calendars

Holiday calendars are exception calendars for days that you do not want to allow Job Scheduler processing. Holiday calendars can be used with virtually all Job Scheduler schedule codes. You use holiday calendars for holidays or any other days for which you do not want to allow processing. For instance, you could schedule the 15th of each month as a maintenance day. No processing would occur on the 15th of each month.

Holiday calendars are listed in the Work with Holiday Calendars display shown following. From this display you can add, change, remove, display, or work with jobs with a holiday calendar.

```

                                Work with Holiday Calendars                                RCHAS400

Position to . . . . . _____ Starting characters

Type options, press Enter.
  1=Add  2=Change  3=Copy  4=Remove  5=Display  6=Work with jobs

Opt   Calendar      Text
-     _____
-     HOLIDAYS      Standard holidays
-     HOLIDAYS94    Holidays for 1994
-     SPECIAL       Special exception days for 1994

                                                                Bottom

```

Figure 5-10. Work with Holiday Calendars Display

Additionally, you can copy calendars or work with all jobs that use the specified holiday calendar.

When you specify a holiday, you are given the option of specifying the run date that is substituted for the holiday. The various options are displayed in the holiday calendar HOLIDAYS.

```

                                Display Holiday Calendar                                RCHAS400
Calendar name . . . . . : HOLIDAYS
Reference calendar . . : HOLIDAYS94
Text . . . . . : Standard holidays

      Date      Run Date
      1/01      *NEXTWRK
      7/04      *PREVWRK
      12/25     *NONE

                                                                Bottom

```

Figure 5-11. Example of Holiday Calendar

Following is an explanation of the keywords shown in the previous Display Holiday Calendar display.

- \*NEXTWRK - Process jobs scheduled on this day on the next working day after the holiday.
- \*PREVWRK - Process jobs scheduled on this day on the last working day before the holiday.
- \*NONE - Do not process jobs scheduled on this day.

**Note:** In the above display, the reference calendar HOLIDAYS94 is used with the holiday calendar HOLIDAYS.

## Setting Up Fiscal Calendars

Fiscal calendars are user-defined starting and ending dates for fiscal period entries that you define. Fiscal calendars are often used in accounting applications where there are specific beginning and ending dates in each month that are used for financial purposes. Often these dates do not correspond to normal calendar month beginning and end days, so the fiscal calendar function of Job Scheduler allows you to manage this situation. When a fiscal calendar is used, all schedule codes base their scheduling on the starting and ending dates within the calendar. For instance, using schedule code \*DAY runs a job on specified days of the month, for example the 1st and 15th. When the \*DAY schedule code is used with a fiscal calendar that has a period that starts on March 3 and ends on March 27, the job will run on March 3 and 18 since March 3 is the first day of the fiscal period and March 18 is the fifteenth day of the fiscal period.

Fiscal calendars can be used with all schedule codes except \*NONE, \*ALTERNATE, and \*ONCE.

All the fiscal calendars that you have set up are displayed in the Work with Fiscal Calendars display. From this display you can add, remove, display or copy fiscal calendar entries.

```

                                Work with Fiscal Calendars                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add  2=Work with fiscal calendar entries  3=Copy  4=Remove
  5=Display  6=Work with jobs
Opt   Calendar   Text
-     DIVFISCAL   Machine products fiscal year calendar
-     FISCAL      Fiscal year calendar
Bottom

```

Figure 5-12. Work with Fiscal Calendars Display

Additionally, from this display you can work with fiscal calendar entries, as well as work with jobs that use the specified fiscal calendar.

Defining a fiscal calendar is a three step process.

1. The first step is to add a fiscal calendar and the text that describes the fiscal calendar.

```

                                Add Fiscal Calendar                                RCHAS400
Type choices, press Enter.
Fiscal calendar name . . . . . DIVFISCAL Name
Text . . . . . Machine products fiscal year calendar

```

Figure 5-13. Add Fiscal Calendar Display

2. The next step is to use the Work with fiscal calendar entries display (Option 2 from the Work with Fiscal Calendars display) to enter the names of the fiscal calendar entries that you are defining. Note that there is a Start date and End date displayed for the fiscal calendar entry in the following display.

```

                                Work with Fiscal Calendar Entries                                RCHAS400
Fiscal calendar . . . . . : DIVFISCAL
Text . . . . . : Machine products fiscal year calendar
-----
                                Position to . . . . .
Type options, press Enter.
  1=Add 2=Change 4=Remove 5=Display

  Entry      Start      End
Opt Name     Date       Date
-----
-  FY94      1/01/94   12/15/94
-  FY95      1/03/95   12/27/95
-  FY96      1/02/96   12/28/96

```

Figure 5-14. Work with Fiscal Calendar Entries Display

- The last step is to add the starting and ending dates associated with the fiscal calendar. Following is the complete list of Starting and Ending dates associated with the fiscal calendar entry FY94. The 1/01/94 starting date and the 12/15/94 (expressed in mm/dd/yy format) ending date are extracted from this list and displayed on the Work with Fiscal Calendar Entries display.

```

                                Display Fiscal Calendar Entry                                RCHAS400
Fiscal calendar . . . . . : DIVFISCAL
Entry name . . . . . : FY94
Period 01 Start:End . . . . . : 1/01/94 : 1/28/94
Period 02 Start:End . . . . . : 2/02/94 : 2/26/94
Period 03 Start:End . . . . . : 3/01/94 : 3/29/94
Period 04 Start:End . . . . . : 4/01/94 : 4/30/94
Period 05 Start:End . . . . . : 5/03/94 : 5/30/94
Period 06 Start:End . . . . . : 6/03/94 : 6/28/94
Period 07 Start:End . . . . . : 7/05/94 : 7/31/94
Period 08 Start:End . . . . . : 8/01/94 : 8/27/94
Period 09 Start:End . . . . . : 9/01/94 : 9/30/94
Period 10 Start:End . . . . . : 10/01/94 : 10/30/94
Period 11 Start:End . . . . . : 11/03/94 : 11/30/94
Period 12 Start:End . . . . . : 12/01/94 : 12/15/94
Period 13 Start:End . . . . . :

```

Figure 5-15. Example of Fiscal Calendar Entries

## Defining Library Lists

You can define library lists for use in Job Scheduler jobs. The following library lists are user defined and are used by the job when it is processing. You can use a library list from this list when you are adding or changing a job in Job Scheduler. You can add, remove, change, copy, or display library lists that you have set up.

**Note:** On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

```

                                Work with Library Lists                                RCHAS400

Position to . . . . . _____ Starting characters

Type options, press Enter.
  1=Add  2=Change  3=Copy  4=Remove  5=Display  6=Work with jobs

Opt  Lib List      Text
-    ACCOUNTING   Library list for accounting jobs
-    LIBLIST      Library list
-    MANUFACTUR   Library list for manufacturing jobs
-    PAYROLL      Library list for payroll jobs

```

Figure 5-16. Working with Library Lists Display

Following is the library list PAYROLL. Each library in the library list is assigned a sequence number.

```

                                Display Library List                                RCHAS400

Library list . . . . . : PAYROLL
Text . . . . . : Library list for payroll jobs

      Seq  Library
      ---  ---
      10   PRLIB
      20   PRLIB2
      30   QGPL
      40   QUSRSYS

```

Figure 5-17. Display Library List Display

## Assigning Jobs to Applications

Job Scheduler allows you to assign jobs to an application. For instance, you might have a series of jobs that you use for payroll that could be considered an application (or a set of jobs) that you want to group together for an accounting process. When you add a new job, and that job is used in an application that you have set up, you can specify the application when adding the job.

The Work with Applications display is used to perform all functions relating to applications. Following is the Work with Applications display.

```

                                Work with Applications                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add  2=Change  3=Copy  4=Remove  5=Display  6=Work with jobs
  7=Hold application jobs  8=Release application jobs
  9=Change application information

Opt  Application      Text
--  -----
-   ACCOUNTING       Accounting jobs
-   MANUFACTUR       Manufacturing jobs
-   PAYROLL          Payroll jobs

```

Figure 5-18. Work with Applications Display

Contacts can be assigned to each application that you set up. Options 1, 2, 3, and 5 let you add contacts, change contacts, copy contacts, and display contacts from the Work with Applications display.

To add a contact to an application, you must use Option 1 (Add) or Option 2 (Change). Following is the Add Application display.

```

                                Add Application                                RCHAS400
Type information, press Enter.
Application . . . . . NEWAPP
Application contact one . . . . . _____ F4
Application contact two . . . . . _____ F4
Application contact three . . . . . _____ F4
Application contact four . . : Select Application Contact : F4
Application contact five . . :                               : F4
Text . . . . . : Type options, press Enter. :
                  : 1=Select :
                  : Opt Application contact :
                  : - Accounting department :
                  : - Herb Brady :
                  : 1 Information Systems Dept :
                  : - Job Blevins :
                  :                               :
                  :                               Bottom :
                  : F9=Work with application contacts :
                  : F12=Cancel :
                  : .....:

```

Figure 5-19. Adding a New Application

In the previous example, the Information Systems department was selected in the Select Application Contact by typing a “1” by the Information Systems entry and pressing the Enter key. If the application contact is not a member of the list, you can use F9 (Work with application contacts) to add an application contact to the list of application contacts.

**Note:** The F9 (Work with Application Contacts) function in the Select Application Contact display is the only method of adding an application contact in Job Scheduler. There is not a menu option to go directly to the Work with Application Contacts display.

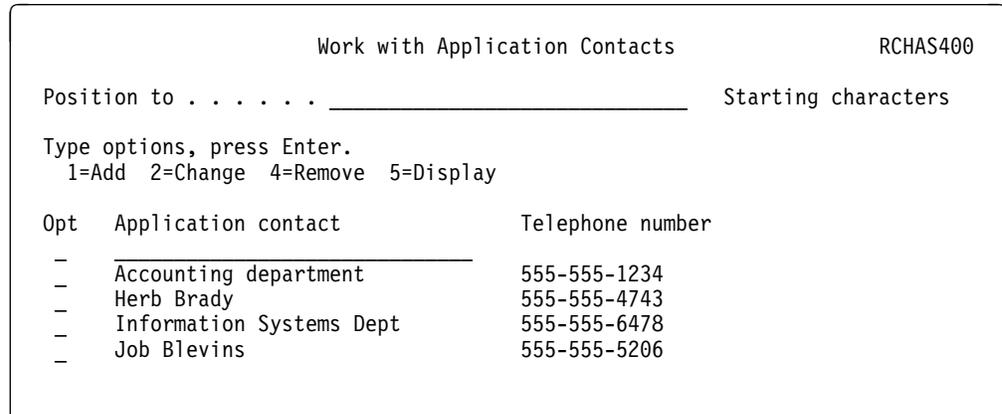


Figure 5-20. Working with Application Contacts Display

Once the Information Systems department has been added, you can press the Enter key until you return to the Add Application display.

There are several other useful options on the Work with Applications display. These are:

**Option 6 (Work with jobs):** This option allows you to work with all jobs that are part of the application that you have selected. You are taken to the Work with Jobs display which displays only the jobs for that application.

**Options 7, 8 (Hold/Release application jobs):** These options allow you to hold or release all the jobs that are associated with the selected application.

**Option 9 (Change application information):** This option allows you to change the documentation information about an application.

**Note:** On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

## Specifying Parameters

Job Scheduler allows you to maintain a table of parameters to be used in the jobs or groups of jobs that you set up in Job Scheduler. Parameters are variables such as the beginning of each month, a division number, end of month, and so on. Additionally, parameters can be passed to Job Scheduler from external systems (for example when users schedule jobs from a user menu).

Parameters are entered and maintained using the Work with Parameters display. You can add, change, remove and display parameters that you have set up. Parameters are used in commands that are associated with jobs that you set up. Parameters are preceded by an ampersand (&); when specified in a command.

**Note:** You should be cautioned that once a parameter is used in a job, there are no checks to prevent you from removing a parameter record from the parameter file. Once removed, any job accessing the removed parameter will fail during processing.

```

                                Work with Parameters                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add   2=Change   4=Remove   5=Display

Opt Parameter   Parameter Length   Parameter Data
- CYCLEDATE     6       940101
- EOMDATE       6       093093
- FRDATE        8       12/01/94
- JOBDATE        6       930101
- MSG           90      test message
- PGM           10      default
- STEPNUM        3       067
- TODATE         6       123194
- USER          10      *CURRENT

```

Bottom

Figure 5-21. Working with Parameters Display

## Processing Programs

You can choose to process a program instead of processing data specified for the parameter or a formula for the parameter. If you specify a program to process, any parameter data that you enter is ignored. The default for the *Program to process* field is \*NONE, which indicates that parameter information is to be obtained from the *Parameter data* field.

## Parameter Data

Any character is valid for entry into the *Parameter data* field. Validity is checked to the extent of the use of the parameter within your programs or of the Job Scheduler job when submitted. The number of characters in the *Parameter data* field should correspond with the length placed in the *Parameter length* field. Data entered in a shorter length than the *Parameter length* field will pass data padded with blanks to the length of the parameter. Leading blanks and embedded blanks will be passed to the parameter in your command exactly as keyed. Any parameter data keyed past the specified length of the parameter field is truncated. Apostrophes (') used in parameter data must appear in pairs to be valid. If only one apostrophe is used, the parameter will be rejected with the error Quotes (") in Parameter Data Must Appear in Pairs. You must correct this error before continuing.

Following are examples of valid and invalid parameter input and the resulting parameter data:

Table 5-1 (Page 1 of 2). Parameter Examples

Name	Length	Data	Passed	Valid
MONTH	5	MAY	MAY	Yes

<i>Table 5-1 (Page 2 of 2). Parameter Examples</i>				
<b>Name</b>	<b>Length</b>	<b>Data</b>	<b>Passed</b>	<b>Valid</b>
MONTH	5	APRIL	APRIL	Yes
MONTH	5	AUGUST	AUGUS	Yes
MONTH	7	'MAY'	'MAY'	Yes
MONTH	6	'MAY'	-----	No

## Using Formulas for Parameter Data

There are special values that can be used in the Parameter data field that are used in date calculations. For example, one of the special values used in date calculations is \*QMDY. The Q indicates the system date, the M indicates month, the D indicates day, and the Y indicates year. Whenever you see a special value beginning with Q, the calculation is based on the current system date. If the special value begins with A, the calculation is based on the submission date.

For example, the parameter data specified as \*QMDY(D-33,M+1,D+5W) would indicate that the current system date is the beginning point for the calculation. You would then subtract 33 days from the current system date, add 1 to the month and add five working days to the date calculated from the prior day (D-33) calculation. The resulting date would be expressed in month, day, year format.

Another example would be \*QMDY(M+1,D=1). This indicates that based on the current system date, add one to the month and set the day as the first day of the month. The resulting date would be expressed in month, day, year format. Another character that is in some special values is C, which is a century indicator. 0 represents the twentieth century and 1 represents the twenty-first century.

The following values can be used in formulas for the parameter data field:

- \*ADD** The parameter calculation is based on the submission date. The value returned is a day, expressed as a two-digit value.
- \*AMM** The parameter calculation is based on the submission date. The value returned is a day, expressed as a two-digit value.
- \*AYY** The parameter calculation is based on the submission date. The value returned is a year, expressed as a two-digit value.
- \*AYMD** The parameter calculation is based on the submission date. The value returned is in year, month, day format and is a six-digit value.
- \*AMDY** The parameter calculation is based on the submission date. The value returned is in month, day, year format and is a six-digit value.
- \*AYM** The parameter calculation is based on the submission date. The value returned is in year, month format and is a four-digit value.
- \*AMY** The parameter calculation is based on the submission date. The value returned is in month, year format and is a six-digit value. Year is a four-digit value.
- \*AMYY** The parameter calculation is based on the submission date. The value returned is in month, year format and is a six-digit value. Year is a four-digit value.
- \*AYYM** The parameter calculation is based on the submission date. The value returned is in year, month format and is a six-digit value. Year is a four-digit value.

- \*AAYMD** The parameter calculation is based on the submission date. The value returned is in year, month, day format and is an eight-digit value. Year is a four-digit value.
- \*AMDYY** The parameter calculation is based on the submission date. The value returned is in month, day, year format and is an eight-digit value. Year is a four-digit value.
- \*ADMY** The parameter calculation is based on the submission date. The value returned is in day, month, year format and is an eight-digit value. Year is a four-digit value.
- \*ACYMD** The parameter calculation is based on the submission date. The value returned is in century, year, month, day format and is a seven-digit value. Century is a one-digit value, 0 for the twentieth century, and 1 for the twenty-first century.
- \*ACMDY** The parameter calculation is based on the submission date. The value returned is in century, month, day, year format and is a seven-digit value. Century is a one-digit value, 0 for the twentieth century, and 1 for the twenty-first century.
- \*ACDMY** The parameter calculation is based on the submission date. The value returned is in century, day, month, year format and is a seven-digit value. Century is a one-digit value, 0 for the twentieth century, and 1 for the twenty-first century.
- \*QDD** The parameter calculation is based on the current system date. The value returned is a day, expressed as a two-digit value.
- \*QMM** The parameter calculation is based on the current system date. The value returned is a month, expressed as a two-digit value.
- \*QYY** The parameter calculation is based on the current system date. The value returned is a year, expressed as a two-digit value.
- \*QYMD** The parameter calculation is based on the current system date. The value returned is in year, month, day format and is a six-digit value.
- \*QMDY** The parameter calculation is based on the current system date. The value returned is in month, day, year format and is a six-digit value.
- \*QDMY** The parameter calculation is based on the current system date. The value returned is in day, month, year format and is a six-digit value.
- \*QYM** The parameter calculation is based on the current system date. The value returned is in year, month format and is a four-digit value.
- \*QMY** The parameter calculation is based on the current system date. The value returned is in month, year format and is a four-digit value.
- \*QMYY** The parameter calculation is based on the current system date. The value returned is in month, year format and is a six-digit value. Year is a four-digit value.
- YYM** The parameter calculation is based on the current system date. The value returned is in year, month format and is a six-digit value. Year is a four-digit value.
- YYMD** The parameter calculation is based on the current system date. The value returned is in year, month, day format and is an eight-digit value. Year is a four-digit value.

- MDYY** The parameter calculation is based on the current system date. The value returned is in month, day, year format and is an eight-digit value. Year is a four-digit value.
- DMYY** The parameter calculation is based on the current system date. The value returned is in day, month, year format and is an eight-digit value. Year is a four-digit value.
- CYMD** The parameter calculation is based on the current system date. The value returned is in century, year, month, day format and is a seven-digit value. Century is a one-digit value, 0 for the twentieth century, and 1 for the twenty-first century.
- CMDY** The parameter calculation is based on the current system date. The value returned is in century, month, day, year format and is a seven-digit value. Century is a one-digit value, 0 for the twentieth century, and 1 for the twenty-first century.
- CDMY** The parameter calculation is based on the current system date. The value returned is in century, day, month, year format and is a seven-digit value. Century is a one-digit value, 0 for the twentieth century, and 1 for the twenty-first century.

## Passing User-Defined Parameters

Parameters can be passed from any user to a Job Scheduler job or jobs. Dynamic parameter passing is normally done in conjunction with the Submit Job using Job Scheduler (SBMJOBJS) command or the Start Group using Job Scheduler (STRGRPJS) commands. Following are the steps necessary to set up a job to print sales commissions (SLSCOM) and the associated parameters which will be submitted from a user-created menu to be scheduled for processing by Job Scheduler.

### Step 1

Set up the parameters within Job Scheduler that will be used by the user-submitted job SLSCOM.

This is accomplished by using the Add Parameter display. This display is reached by selecting Option 7 (Work with Parameters) from the Job Controls menu and Option 1 (Add Parameter) from the Work with Parameters display. Two parameters will be added - a from date (FRDATE) and a to date (TODATE). The Add Parameter for FRDATE is as follows. The TODATE parameter could be similarly added.

Add Parameter RCHAS400

Type choices, press Enter.

Parameter name . . . . .	<u>FRDATE</u>	Name
Parameter length . . . . .	<u>6</u>	1-90
Parameter data. . . . .	<u>020294</u>	

---

Figure 5-22. Adding a Parameter using the Add Parameter Display

### Step 2

The sales commission job (SLSCOM) is added to Job Scheduler. The second screen of the Display Job display follows. The sales commission job is part of the SALES application and is run using the \*DAY schedule code on the 15th day of the month.

```

                                Display Job                                RCHAS400
Job name . . . . . : SLSCOM
Group name . . . . . : *NONE
Group sequence . . . . . : 0

Application . . . . . : SALES
Schedule code . . . . . : *DAY
Scheduled times. . . . . : 22:00

Calendar . . . . . : *NONE
Holiday calendar . . . . . : *NONE
Fiscal calendar . . . . . : *NONE
Day of the month . . . . . : 15
Working days . . . . . : *NO
Text . . . . . : Print Sales Commission Report

                                                                More...
```

Figure 5-23. Displaying a Parameter for a Job

The SLSCOM job uses the parameters (FRDATE and TODATE) that were set up earlier. To set up the parameters in the job, you must use Option 8 (Change Command List) from the Work with Jobs display. The parameters are entered in the command line with quotes. All parameters must exist in the parameter list and, when entered on the command line, be preceded by an ampersand (&); Following is the command associated with the SLSCOM job. The job is scheduled to be run on the 15th of each month and uses the from date (FRDATE) and to date (TODATE) parameters to determine the information that is to be included in the report.

**Note:** On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

```

                                Change Command List                                RCHAS400
Job name . . . . . : SLSCOM
Group name . . . . . : *NONE
Group sequence . . . . . : 0
Text . . . . . : Print Sales Commission Report

Type choices, press Enter.

Seq   Command
-----
 10   CALL SLSCOM PARM('&FRDATE' '&TODATE')
```

Figure 5-24. Using a Parameter in a Command List

### Step 3

Following is the control language program for the user-created menu that schedules the SLSCOM job and its accompanying parameter, FRDATE and TODATE.

```
PGM
DCL &FROM *CHAR 6
DCL &TO *CHAR 6
DCLF ARHISTDSPF
LOOP: SNDRCVF ARMENU
  IF (&IN03 *EQ '1' *OR &IN12 *EQ '1') GOTO ENDPGM
  IF (&OPTION *EQ '1') CALL ARC2000
  IF (&OPTION *EQ '2') CALL ARCEDIT
  IF (&OPTION *EQ '3') +
    SBMJOBJS JOB(SLSCOM) PARM((FRDATE &FROM) (TODATE +
      &TO))
  GOTO LOOP
ENDPGM: ENDPGM
```

Figure 5-25. Using a Parameter Example

Following is the Submit Job using Job Scheduler (SBMJOBJS) command for scheduling the sales commission report job (SLSCOM). Note the reference to the submit time and submit date. By changing the parameter data either in the parameter file or on the command, the sales report would include the specified date range. In this example, the contents of the &FROM and &TO control language variables will be used when the job is processed.

```
Submit Job using Job Scheduler (SBMJOBJS)

Type choices, press Enter.

Job entry:
Job . . . . . > SLSCOM      Name
Group . . . . . *NONE      Name, *NONE
Group sequence . . . . . *NONE 1-99, *NONE
Submit time . . . . . *SCHED Time (HHMM), 0001-2400...
Submit date . . . . . *CURRENT Date, *CURRENT
Starting sequence . . . . . *FIRST Number, *FIRST
Check for dependencies . . . . . *YES *YES, *NO
Update dependencies . . . . . *NO *NO, *YES
Parameters:
Parameter name . . . . . FRDATE Character value, *NONE
Parameter data . . . . . &FROM
-----
Parameter name . . . . . TODATE Character value, *NONE
Parameter data . . . . . &TO
-----
+ for more values _
```

Figure 5-26. Example of SBJOBJS using Parameter Data

---

## Setting Up System Parameters

Job Scheduler system parameters deal with passing a date to a program or a command entry. The date can be a submission date, a processing date (current date) or a previous date. The value of the date that you use can control report headings and date sensitive updates. For example, if a job is submitted at 23:00 (11:00 pm), but does not run until 1:00 am, the system date would have changed. Using the Job Scheduler submission date system parameters will pass the submit date to your job to be used for these date-sensitive functions. You use system parameters in the same manner as user-defined parameters as described in "Passing User-Defined Parameters" on page 5-18.

The Job Scheduler system parameters are shown in the following table.

<b>Parameter</b>	<b>Description</b>
AMM	Month of submission date
ADD	Day of submission date
AYY	Year of submission date
AMDY	Submission date in month-day-year format
ADMY	Submission date in day-month-year format
AYMD	Submission date in year-month-day format

Following are system parameters that deal with passing of the system date when the job actually begins processing.

<b>Parameter</b>	<b>Description</b>
QMM	Month of current date
QDD	Day of current month
QYY	Year of current month
QMDY	Current date in month-day-year format
QDMY	Current date in day-month-year format
QYMD	Current date in year-month-day format
QDATSEP	Date separator for current date

Following are system parameters that deal with the passing of the previous date. The previous date is determined based on the current date on which the parameter is used.

<b>Parameter</b>	<b>Description</b>
PMDY	Previous date in month-day-year format
PDMY	Previous date in day-month-year format
PYMD	Previous date in year-month-day format

Following are system parameters that deal with the passing of the system time.

<b>Parameter</b>	<b>Description</b>
QHOUR	Current hour
QMINUTE	Current minute

<i>Table 5-5 (Page 2 of 2). System Parameters - Current System Time</i>	
<b>Parameter</b>	<b>Description</b>
QSECOND	Current second
QTIME	Current time
QTIMSEP	Current time separator

## Printing Job Control Reports

Options 2 through 7 on the Job Controls menu have associated print options (Options 10 - 15). Refer to Appendix B, Report Summary for a list of all reports and associated printer files. Following is the Job Controls menu.

```

JSJOBCTL                               Job Controls                               System:  RCHAS400
Select one of the following:

    1. Change job defaults
    2. Work with calendars
    3. Work with holiday calendars
    4. Work with fiscal calendars
    5. Work with library lists
    6. Work with applications
    7. Work with parameters

    10. Print calendars
    11. Print holiday calendars
    12. Print fiscal calendars
    13. Print library lists
    14. Print applications
    15. Print parameters

```

Figure 5-27. Job Scheduler Job Controls Menu

---

## Chapter 6. Completion History and Logging

Job Scheduler provides you with the information that you need to track the completion history of jobs that you submit, as well as a complete log of all the activities that went into processing the job. Completion history is a job-by-job history of when a Job Scheduler job last ran, how long it took, and what the results were. Logging provides a more detailed history of Job Scheduler activities, which can include such things as changes to the job schedule, job processing, starting or ending the Job Scheduler job monitor, and so on.

---

### Accessing Job History Information

The Job History Information menu can be accessed from the main menu using Option 2 or by using GO JSHST.

```
JS                               Job Scheduler for OS/400                               System:  RCHAS400

Select one of the following:

    1. Work with jobs
  --> 2. Job history information
    3. Job reports
    4. Job controls
    5. System controls

    10. Report distribution
```

```
JSHST                             Job History Information                             System:  RCHAS400

Select one of the following:

    1. Work with history
    2. Display log
    3. Remove history
    4. Remove log entries
```

Figure 6-1. Job History Information Display

---

### Viewing Completion History

Selecting Option 1 (Work with history) prompts the Work with History using Job Scheduler (WRKHSTJS) command. This command allows you to select the types of entries that you want to include in the resulting Work with History display. For instance, you can select job history for specific, generic or all jobs, history for jobs with specific or all job completion status codes, and a range of job history based on a from and to date. Additionally, you can select the sequence in which the job history entries are to be sorted and whether the newest or oldest entries appear first.

```

Work with History using JS (WRKHSTJS)

Type choices, press Enter.

Job entry:
Job . . . . . *ALL      Name, generic*, *ALL
Group . . . . . *ALL      Name, generic*, *ALL, *NONE
Group sequence . . . . . *ALL      1-99, *ALL, *NONE
Completion status . . . . . *ALL      *ALL, *NORMAL, *ABNORMAL...
      + for more values
Time period for history output:
Start time and date:
Beginning time . . . . . *AVAIL     Time, *AVAIL
Beginning date . . . . . *BEGIN     Date, *CURRENT, *BEGIN, nnnnn
End time and date:
Ending time . . . . . *AVAIL     Time, *AVAIL
Ending date . . . . . *END        Date, *CURRENT, *END, nnnnn
Remote location name . . . . . *ALL
Sequence option . . . . . *DATE     *DATE, *JOB, *GROUP
Entries to display first . . . . . *LAST     *LAST, *FIRST

```

Figure 6-2. Work with History using Job Scheduler Command

To see information on any of the fields, place the cursor on the field and press the Help or F1 key.

Entry of the previous command resulted in the following Work with History display. The job, group name, and sequence is displayed as well as last run information. Options allow you to display individual jobs, work with job logs, or work with spooled files for a job.

```

Work with History                                RCHAS400

Position to Date . . . . . _____

Type options, press Enter.
 4=Remove  5=Display  7=Display job log  8=Work with job (WRKJOB)

  Job      Group      Grp  ----- Last run -----
Opt Name   Name        Seq   Date   Start  End    Elapsed  Completion
- DASDRPT  *NONE        0    9/16/94  1:01  2:13   1:12  *NORMAL
- DLTQHST  *NONE        0    9/16/94  2:14  2:14   0:01  *NORMAL
- REORG    *NONE        0    9/16/94  2:14  2:15   0:01  *NORMAL
- RMVLOGEJS *NONE        0    9/16/94  2:15  2:15   0:01  *NORMAL
- EVERY30  *NONE        0    9/16/94  2:45  2:45   0:01  *NORMAL
- EVERY30  *NONE        0    9/16/94  3:15  3:15   0:01  *NORMAL
- EVERY30  *NONE        0    9/16/94  3:46  3:46   0:01  *NORMAL
- SLSCOM   *NONE        0    9/16/94  4:16  4:16   0:01  *ABNORMAL
- EOMSALES *NONE        0    9/16/94  6:43  6:43   0:01  *NORMAL
- GLDAILY  GLCYCLE      1    9/16/94  6:43  6:43   0:01  *NORMAL
- GLPOST   GLCYCLE     10   9/16/94  9:55  9:56   0:01  *NORMAL

```

Figure 6-3. Work with History Display

---

## Removing Completion History

You should remove completion history from Job Scheduler by selecting Option 3 (Remove history) from the Job History Information display. You will see the Remove History using Job Scheduler (RMVHSTJS) display, where you can elect to remove history based on the number of occurrences or based on a number of days and a date range.

```
JSHST                      Job History Information                      System:  RCHAS400
Select one of the following:
    1. Work with history
    2. Display log
--> 3. Remove history
    4. Remove log entries

Remove History using JS (RMVHSTJS)

Type choices, press Enter.
Remove type . . . . . *DAYS      *OCCUR, *DAYS
Number of occurrences . . . . . 180      1-999
Select dates:
  From date . . . . . *BEGIN      Date, *CURRENT, *BEGIN, nnnnn
  To date . . . . . 180      Date, *CURRENT, *END, nnnnn
```

Figure 6-4. Remove History using Job Scheduler Command

---

## Viewing Log Information

Selecting Option 2 (Display log) from the Job History Information menu takes you to the Display Log for Job Scheduler (DSPLOGJS) command. This command allows you to select the types of entries that you want to include in the resulting Display Log for Job Scheduler display. For instance, you can select log entries for a specific job, generic or all jobs, log entries with specific type codes, log entries associated with a specific system or all systems, log entries with a severity code as specified or greater, and a range of log entries based on a from and to date. Additionally you can select whether the result is to be displayed or printed.

```

JSHST                               Job History Information                               System:  RCHAS400
Select one of the following:
    1. Work with history
-->  2. Display log
    3. Remove history
    4. Remove log entries

```

```

                                Display Log for Job Scheduler (DSPLOGJS)
Type choices, press Enter.
Type . . . . . *ALL          *ALL, *RUN, *SUBMIT, *MAINT
Time period for log output:
Start time and date:
Beginning time . . . . . *AVAIL      Time, *AVAIL
Beginning date . . . . . *CURRENT    Date, *CURRENT, *END, nnnnn
End time and date:
Ending time . . . . . *AVAIL      Time, *AVAIL
Ending date . . . . . *CURRENT    Date, *CURRENT, *END, nnnnn
Severity . . . . . *ALL          00-99, *ALL
Output . . . . . *             *, *PRINT

                                Additional Parameters

Job entry:
Job . . . . . *ALL          Name, generic*, *NONE, *ALL
Group . . . . . *ALL       Name, generic*, *ALL, *NONE
Group sequence . . . . . *ALL  1-99, *ALL, *NONE
Remote location name . . . . . *ALL
User . . . . . *ALL       Name, *ALL
Message identifier . . . . . *ALL  Name, *ALL

```

Figure 6-5. Display Log for Job Scheduler Command

Following is the resulting Display Log for Job Scheduler display. Each day's log entries are grouped together to assist you in reviewing a day's activity. If you need to see additional information about any message in the log, you can place the cursor on the message and press the F1 or Help key.

```

9/16/94          Display Log for Job Scheduler          RCHAS400
10:34:43          Position to . . . . . 9/16/94

----- 9/16/94 -----
Job 107894/PSF/EVERY30 submitted for job EVERY30 group *N sequence *N.
Job 107894/PSF/EVERY30 started for job EVERY30 group *N sequence *N.
Job EVERY30 for group *N sequence *N had no commands to process.
8 records were removed from the Job Scheduler history file.
Job 107894/PSF/EVERY30 completed normally for job EVERY30 group *N sequence *N
Job 107924/PSF/EVERY30 submitted for job EVERY30 group *N sequence *N.
Job 107924/PSF/EVERY30 started for job EVERY30 group *N sequence *N.
Job EVERY30 for group *N sequence *N had no commands to process.
Job 107924/PSF/EVERY30 completed normally for job EVERY30 group *N sequence *N
Job 107937/PSF/DASDRPT submitted for job DASDRPT group *N sequence *N.
Job 107937/PSF/DASDRPT started for job DASDRPT group *N sequence *N.
Processing command sequence 0010 for job DASDRPT group *N sequence *N.
Job 107954/PSF/EVERY30 submitted for job EVERY30 group *N sequence *N.
Job 107995/PSF/REORG submitted for job REORG group *N sequence *N.
More...

Press Enter to continue.

```

---

```

Additional JS Log Information          RCHAS400

Message ID . . . . . : IJS6001          Severity . . . . . : 00

Job . . . : DASDRPT          User . . : PSF          Number . . . . . : 107937
Date sent . . . . . : 9/16/94          Time sent . . . . . : 1:01:11
Program . . . . . : QIJSLRUN          Area . . . . . : *RUN
System . . . . . : RCHAS400

Message . . . . . : Job 107937/PSF/DASDRPT started for job DASDRPT group *N
sequence *N.

```

Figure 6-6. Displaying the Job Scheduler Log and Additional Information

## Removing Log Entries

Log entries can be removed from the Job Scheduler log by using Option 4 (Remove log entries) on the Job History Information display. You are taken to the Remove Log Entries from Job Scheduler (RMVLOGEJS) command where you can select to remove log entries based on a date range. In the following example, the *From date* is \*BEGIN and the *To date* is 180. This will remove all log entries that have been on the Job Scheduler log for more than 180 days.

```

JSHST                               Job History Information                System:  RCHAS400
Select one of the following:

    1. Work with history
    2. Display log
    3. Remove history
--> 4. Remove log entries

```

```

                                Remove Log Entries from JS (RMVLOGEJS)

Type choices, press Enter.

Type . . . . . *ALL      *ALL, *RUN, *SUBMIT, *MAINT
Select dates:
From date . . . . . *BEGIN  Date, *CURRENT, *BEGIN, nnnnn
To date . . . . . 180    Date, *CURRENT, *END, nnnnn

```

Figure 6-7. Remove Log Entries from Job Scheduler Command

**Note:** Job history and log information can also be accessed for any job on the Work with Jobs display.

---

## Chapter 7. Job Scheduling

Before beginning a discussion of working with jobs, it is important to understand what a **job** is in Job Scheduler terminology. A job is a user-defined name for commands or programs that you want to process with Job Scheduler.

For instance, if you wanted to process the daily payroll program, you could set up a job in Job Scheduler called DAILYPR. You would put in the various commands or program definitions required to process the daily payroll. DAILYPR can then be assigned a schedule code with an accompanying time and then left to Job Scheduler to automatically run and monitor. Job Scheduler jobs are not OS/400 objects. They are user-defined names for a process that you want to perform at scheduled times and dates.

Jobs can be grouped together into what is called a **job group**. Job groups consist of jobs that run consecutively in the order specified in the *Group sequence* field. A normal completion is required for each job in the group before the next job in the group is submitted for processing. If any job in the group does not complete normally, the processing ceases for that group. The first job within a group must have a sequence of 1 and is the controlling job for scheduling information. Any subordinate job group (sequence number greater than 1) will be bypassed if its status is held. Holding the sequence 1 job group will hold the entire group.

---

### Using the Work with Jobs Display

The Work with Jobs display is the starting point for activities that relate to defining, scheduling, and reviewing individual jobs in Job Scheduler. You reach this display by selecting Option 1 (Work with jobs) from the main menu or by using the Work with Jobs (WRKJOBJS) command.

Following is the full Work with Jobs display.

```

                                Work with Jobs                                RCHAS400
                                                                                   9/19/94  8:43:39
Position to . . . . . _____ Starting characters

Type options, press Enter.
 16=Display run calendar  17=Omit next run  18=Rename job
 19=Work with history     20=Display log   21=Change active dependencies...

Job      Group      Grp      Schedule  Schedule  Schedule
Opt Name Name       Seq      Date      Time      Code
-----
DLTQHST  *NONE      0  *READY   9/15/95   10:00   *NUMDAY
EDI_XMIT *NONE      0  *READY   9/20/94    6:00   *MINUTES
EOMSALES *NONE      0  *READY   9/25/94   19:00   *LASTWRK
GLDAILY  GLCYCLE    1  *READY   9/25/94   19:00   *DAILY
GLPOST   GLCYCLE   10  *READY   *NONE     20:00   *NONE
NOTIFY   *NONE      0  *SAVED   *NONE     10:50   *ONCE
PRERRLOG *NONE      0  *READY   9/20/94    7:00   *DAILY
RGZPFM   *NONE      0  *READY   9/20/94    7:30   *LAST
SLSCOM   *NONE      0  *READY   9/22/94    0:00   *DAY
                                                                                   More...

Parameters for options 2, 5, 7, 11, 12, 18, 19, 20 or command
==>
F3=Exit   F4=Prompt  F5=Refresh  F11=Job statistics  F12=Cancel
F13=Repeat F15=Sort date  F23=More options  F24=More keys

```

Figure 7-1. Work with Jobs Display

An advantage of going to the Work with Jobs display using the Work with Jobs (WRKJOBJS) command is that you can tailor the resulting entries that are displayed through the use of the special values and generic entry capability. Following is the Work with Jobs display.

```

                                Work with Jobs using JS (WRKJOBJS)

Type choices, press Enter.

Job entry:
Job . . . . . *ALL  Name, generic*, *ALL
Group . . . . . *ALL  Name, generic*, *ALL, *NONE
Group sequence . . . . . *ALL  1-99, *ALL, *NONE
Application . . . . . *ALL  Name, generic*, *ALL, *NONE
Schedule code . . . . . *ALL  *ALL, *DAILY, *CALENDAR...
Calendar . . . . . *ALL  Name, generic*, *ALL, *NONE
Holiday calendar . . . . . *ALL  Name, generic*, *ALL, *NONE
Fiscal calendar . . . . . *ALL  Name, generic*, *ALL, *NONE
Remote location name . . . . . *ALL
Report distribution ID . . . . . *ALL  Name, *ALL, *NONE
Library list . . . . . *ALL  Name, generic*, *ALL...
Job status . . . . . *ALL  *ALL, *READY, *HELD...
Text . . . . . *ALL

Command request . . . . . *ALL

Sequence . . . . . *JOB  *JOB, *DATE, *GROUP

```

Figure 7-2. Work with Jobs using Job Scheduler (WRKJOBJS) Command

## Options Available on the Work with Jobs Display

There are 24 options and several function keys available on the Work with Jobs display to perform various Job Scheduler functions. Following is a list showing each option and several of the function keys. Each option and function key will be discussed later in this chapter. Several options listed below have a corresponding command which can be reviewed in Appendix A, User Commands.

To specify different parameter values for a command that runs when you select an option, type the option number and press F4 (Prompt).

You can also type parameters on the command line and press Enter to run the command immediately, or press F4 (Prompt) to specify more parameter values. When you type parameters and select more than one option, the parameters are used for all of the options you type.

To run a command immediately, type the command on the command line and press Enter. For assistance in entering the command, type the command and press F4 (Prompt).

**Note:** Options on the Work with Jobs display provide more functionality than is available through direct use of the corresponding command.

Option Number	Option Description	Corresponding Command
1	Add job	ADDJOBJS
2	Change a job	CHGJOBJS
3	Hold a scheduled job	HLDJOBJS
4	Remove a job	RMVJOBJS
5	Display a job	DSPJOBJS
6	Release/Reset a job	RLSJOBJS
7	Submit a job immediately	SBMJOBJS
8	Change the command list	-
9	Change job LDA	-
10	Change job dependencies	-
11	Start a job group	STRGRPJS
12	Copy a job	CPYJOBJS
13	Edit job authority	-
14	Change job documentation	-
15	Print job documentation	-
16	Display run calendar	-
17	Omit next run	-
18	Rename a job	RNMJOBJS
19	Work with job completion history	WRKHSTJS
20	Display log for Job Scheduler	DSPLOGJS
21	Change active job dependencies	-
22	Change resource dependencies	-
23	Work with report distribution entries	-
24	Work with job (WRKJOB)	WRKJOB
F10	Work with job defaults	-
F11	Job schedule/job statistics/job text/dependencies	-
F13	Repeat	-
F15	Sort by date/group/job	-
F17	Subset	-

## Adding, Changing, or Displaying a Job

The discussion on Option 1 (Add), Option 2 (Change), and Option 5 (Display) is combined here since the fields for each display are the same. Only the function (for example add versus display) is different. The display that will be shown here for all three options is the Add Job display, since it is the one used most frequently in the early stages of using Job Scheduler.

The Job Scheduler Add Job display consists of four displays. The major function of each display is shown below:

Display Number	Function
1	Scheduling
2	Additional scheduling and job definition
3	Job submission
4	Job submission

Even though the Add Job display consists of four displays, the first display is the primary display.

## Adding a Job (Display 1)

The first Add Job display is unique in that it has multiple views, depending on the value specified in the *Schedule code* field. For instance, the presentation of the first Add Job display for a schedule code of \*CALENDAR is different than \*DAILY, which is different than \*DAY, and so on. This is to accommodate the various field differences required for each schedule code. Schedule codes and the first Add Job display associated with each schedule code are discussed in Chapter 3, Schedule Codes.

Shown below is the first display of the Add Job display. All of the fields contain defaults except the *Job name* field. Several of these defaults are derived from the values set in the Job Defaults display. These include Application, Schedule code, Holiday calendar and Fiscal calendar.

```

                                Add Job                                RCHAS400

Type choices, press Enter.

Job name . . . . . _____ Name
  Group name. . . . . _____ *NONE Name, *NONE
  Group sequence . . . . . _____ 0 Number
Application . . . . . _____ *NONE Name, *NONE, F4 for list
Schedule code . . . . . _____ *DAILY Name, *DAILY, F4 for list
Scheduled times . . . . . _____ 0:00 0:00 0:00 0:00 0:00
                               _____ 0:00 0:00 0:00 0:00 0:00
Calendar . . . . . _____ *NONE Name, *NONE, F4 for list
Holiday calendar . . . . . _____ *NONE Name, *NONE, F4 for list
Fiscal calendar . . . . . _____ *NONE Name, *NONE, F4 for list
Days . . . . . _____ *SUN *MON *TUE *WED *THU *FRI *SAT
Text . . . . . _____ *NONE
  
```

Figure 7-3. Add Job Display (Display 1)

Each field of the Add Job display lists choices for each field. Several of the fields use the list function (F4) that allows you to go to a list of possible values and choose one for the jobs that you are adding.

For instance, if you do not know the names of the applications that have been set up in Job Scheduler, you can move the cursor to the *Application* field and press F4. You will see the Select Application pop-up window. You can choose an application from this list by typing a "1" beside the application name you want to use and pressing the Enter key. The application name will be automatically entered for you in the *Application* field of the Add Job display.

If you want to set up a new application, you can press F9 (Work with applications) while in the pop-up window, which will take you to the Work with Applications window. After you add the desired application, you can return to the Select Application display, select the new application, and return to the Add Job display.

The F4 function has allowed you to either select, or add and select an application without ever leaving the Add Job display. The F4 function for Application is shown below. The other fields with the F4 for list function work similarly.

```

                                Add Job                                RCHAS400
                                                                9/19/94 10:41:59
Type choices, press Enter.

Job name . . . . .
Group name . . . . .      *NONE   Name, *NONE
Group sequence . . . . .   0       Number
Application . . . . . : .....: F4 list
Schedule code . . . . . :      Select Application : F4 list
Scheduled times. . . . . :      :
:      :
Calendar . . . . . : Type options, press Enter. : F4 list
Holiday calendar . . . . . : 1=Select : F4 list
Fiscal calendar . . . . . : Opt Application : F4 list
Days . . . . . : - *NONE : *SAT
Text . . . . . : - ACCOUNTING :
: - MANUFACTUR :
: - ORDERENTRY :
: - PAYROLL :
:      :
:      : Bottom :
: F9=Work with applications :
: F12=Cancel :
:      : More...
: .....:

```

Figure 7-4. Add Job Display (F4 pop-up window)

To complete the first display of the Add Job display, you must at a minimum select a job name that is 10 characters or less and a schedule time. The job name can be alphanumeric but must begin with a letter. For the remainder of the fields you can use the defaults, or choose values for job submission, application, and scheduling options that best fit the job that you are setting up. Online help information is available for all of these fields and can be viewed by pressing the Help or F1 key when positioned in the field.

## Adding Commands to a Job

After you have completed the first Add Job display, you can add the commands or programs that process the job by pressing F7 (Add command list). You will see the Add Command List display where you can add an unlimited number of commands to process the job. Sequence numbers are provided that allow you to more easily add, change or insert a command string if needed.

Parameters that you may want to use in the command strings can be reviewed from the Add Command List display by pressing F7 (Work with parameters). You will see the Work with Parameters display where you can view or add parameters as needed for the command you are entering and then return to the Add Command List display by pressing the Enter key.

Following is an example of the Add Command List display for the job DAILYPAY. DAILYPAY is a job that processes the daily payroll.

```

                                     Add Command List
                                     RCHAS400
Job name . . . . . : *NEW
Group Name . . . . . : *NONE
Group Sequence . . . . . : 0
Text . . . . . :

Type choices, press Enter.

Seq   Command
-----
 10   OVRDBF FILE(PRDAILY) TOFILE(PAYPROD/PRDAILY)
 20   CALL PRX002 PARM('&BEGWEEK' '&ENDWEEK' '&QMDY')
 30   CALL PRX003
```

Figure 7-5. Add Command List Display

The following should be noted about the Add Command List display:

- The job name is shown as \*NEW, rather than DAILYPAY. Likewise, the text field is blank. This is because the job DAILYPAY has not yet been added to Job Scheduler. However, after the job is added (which includes the commands added here), the job name DAILYPAY appears at the top of the associated Change or Display Command List displays as does all other job specific information.
- Three parameters have been used in the command listed in sequence number 20. To review or add these parameters, you can use F7 (Work with parameters). The parameter QMDY is a special system parameter for the current month, day and year.
- On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

Following is the Work with Parameters display that you can view when you press F7 (Work with parameters) from the Add Command List display.

```

                                Work with Parameters                                RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add   2=Change   4=Remove   5=Display

Opt Parameter   Parameter Length   Parameter Data
- - - - -
- BEGMONTH      6      940201
- BEGWEEK       6      030794
- BEGYEAR       6      940101
- DIV100        3       100
- DIV200        3       200
- ENDMONTH      6      940228
- ENDWEEK       6      031394
- ENDYEAR       6      941231
- FRDATE        6      011594
- TODATE        6      021594

```

Figure 7-6. Work with Parameters Display

## Adding the Local Data Area (LDA) to a Job

Another function that you can perform from the Add Job display is to add the local data area (LDA) to the job that you are adding by using F8 (Add job LDA). The local data area is a 1024 byte data area that can be used to pass information between programs in a job. A separate local data area is automatically created for each job. To schedule a job that uses the local data area, you must store the local data area information using F8 with the Job Scheduler job. When the job is submitted, the stored local data area values are used with the job.

You can use the local data area to:

- Pass information to a procedure or program without the use of a parameter list.
- Pass information to a submitted job by loading your information into the local data area and submitting the job.
- Improve performance over other types of data area accesses from a CL procedure or program. Store information without the overhead of creating and deleting a data area yourself.

Examples of using the LDA function of Job Scheduler are contained in Chapter 9, Job Scheduler Processing Tips.

---

## Adding a Job (Display 2)

Display 2 of the Add Job display contains additional scheduling and job definition information. Like the first display (and the other Add Job displays), each field has several choices listed as well as some fields having the list function (F4). Defaults are supplied for all fields to speed field entry. Following is the second display of the Add Job display.

Add Job		RCHAS400
Type choices, press Enter.		
Remote location name. . . . .	<u>*JOBCTL</u>	
Start time and date:		
Beginning time. . . . .	<u>*NONE</u>	Time, *NONE
Beginning date. . . . .	<u>*NONE</u>	Date, *NONE
End time and date:		
Ending time . . . . .	<u>*NONE</u>	Time, *NONE
Ending date . . . . .	<u>*NONE</u>	Date, *NONE
Maximum run time . . . . .	<u>*NOMAX</u>	Minutes, 1-9999, *NOMAX
Pager recipient normal . . . . .	<u>*JOBCTL</u>	Name, *NONE, *JOBCTL
Pager message . . . . .	<u>*JOBCTL</u>	
Pager recipient abnormal . . . . .	<u>*JOBCTL</u>	Name, *NONE, *JOBCTL
Pager message . . . . .	<u>*JOBCTL</u>	
Alternate job . . . . .	<u>ALT1</u>	Name, *NONE, F4 for list
Group name . . . . .	<u>*NONE</u>	Name, *NONE
Group sequence . . . . .		Number
Report distribution ID. . . . .	<u>*NONE</u>	Name, *NONE, F4 for list
Recovery action . . . . .	<u>*JOBCTL</u>	*SBMRLS, *SBMHLD, *NOSBM...

Figure 7-7. Add Job Display (Display 2)

Several of the fields on the second display of the Add Job display require further explanation.

**Remote Location Name** - The *Remote location name* is the system on which the job will be run. The value for this field defaults to the value specified in the Job Defaults display. When a value defaults to the job defaults the special keyword \*JOBCTL is used.

**Start and end date** - The *Start and end date* fields can be used with all schedule codes to define a date range that a job can process.

**Note:** The *Start and end dates* are not the first date or the last date that a job will process. They establish the allowable range of dates for the job to run.

If you use the default beginning date (\*NONE) and the default ending date (\*NONE), the job will be scheduled to run until you put the job on hold or remove the job. If you wanted the job to only run during calendar year 1994, you would specify the beginning date as 1/01/94 and the ending date as 12/31/94 (where the date format is mm/dd/yy).

**Start and end time** - The *Start and end times* can only be used when using the \*MINUTES scheduling code. If you leave the default values for beginning time (\*NONE) and ending time (\*NONE) the job can run every specified number of minutes 24 hours a day. If on the other hand, you wanted the job to only run every 10 minutes from 8:00 a.m. to 5:00 p.m., then you would enter 8:00 for the beginning time and 17:00 (5:00 p.m. in military time) in the *Ending time* field.

**Maximum run time** - In some instances, you may want to limit the length of time a job can run before it is canceled. The job could be a test job that you were uncertain of the results and did not want it to "run all night." The *Maximum run time* field is used to enter a number of minutes (1 - 9999) that you will allow a job to run. If the job is still running and the number of minutes has been reached, Job Scheduler will cancel the job and report the results in the Job Scheduler log. The default value

for the field is \*NOMAX, which allows the job to run with no time limits to completion or abnormal completion.

**Pager recipient and message** - You can specify a pager recipient and message for both normal and abnormal job completion. You specify the paging command that is to be processed when this option is used. The Change Pager Command using Job Scheduler (CHGPGRJS) command is used to specify this command.

**Alternate jobs** - When a job completes abnormally, you can specify an alternate job to process. For instance, if a nightly job failed, the alternate job could be a job that duplicates all the objects in the QTEMP library.

**Report distribution ID** - This field is the link between the job that you are setting up and how the reports that the job produces are to be distributed. You can use the list function (F4) to review and select available report distribution IDs or set up a new one.

## Adding a Job (Displays 3 and 4)

The third and fourth Add Job displays contain job submission information. All fields use the defaults specified in the Job Controls display. Each field has associated online help information that can be reviewed by positioning the cursor in the field and pressing Help or F1.

```

                                Add Job                                RCHAS400
                                                                9/20/94  9:11:09
Type choices, press Enter.

-----Submission Information-----

Job description . . . . . *JOBCTL      Name, *USRPRF, *JOBCTL
  Library . . . . .          _____ Name, *LIBL, *CURLIB
Job Queue . . . . . *JOBCTL      Name, *JOBQ, *JOBCTL
  Library . . . . .          _____ Name, *LIBL, *CURLIB
Job priority (on JOBQ) . . . *JOBCTL      1-9, *JOBQ, *JOBCTL
Output priority (on OUTQ) . . *JOBCTL      1-9, *JOBQ, *JOBCTL
Print device . . . . . *JOBCTL      Name, *USRPRF, *SYSVAL...
Output queue . . . . . *JOBCTL      Name, *JOBQ, *USRPRF, *DEV...
  Library . . . . .          _____ Name, *LIBL, *CURLIB
User . . . . . *JOBCTL          Name, *JOBQ, *CURRENT...
Print text . . . . . *JOBCTL
Routing data . . . . . *JOBCTL

-----
F3=Exit   F7=Add command list   F8=Add job LDA   F12=Cancel

More...
```

Figure 7-8. Add Job Display (Display 3)

```

                                Add Job                                RCHAS400
                                                                9/20/94  9:13:43
Type choices, press Enter.

Current library . . . . . *JOBCTL      Name, *USRPRF, *CRTDFT...
Library list . . . . . *JOBCTL      Name, *JOB, *SYSVAL, F4 list
Message logging:
  Level . . . . . *JOBCTL      0-4, *JOB, *JOBCTL
  Severity . . . . . *JOBCTL      0-99, *JOB, *JOBCTL
  Text . . . . . *JOBCTL      *JOB, *MSG, *SECLVL...
Log CL program commands . . . *JOBCTL      *JOB, *YES, *NO, *JOBCTL
Inquiry message reply . . . *JOBCTL      *JOB, *RQD, *DFT...
Hold on job queue . . . . . *JOBCTL      *JOB, *NO, *YES, *JOBCTL
Job switches . . . . . *JOBCTL      Character value, *JOB...
Message queue . . . . . *JOBCTL      Name, *USRPRF, *NONE, *JOBCTL
  Library . . . . . *JOBCTL      Name, *LIBL
Accounting code . . . . . *JOBCTL
Run priority . . . . . *JOBCTL      1-99, *JOBCTL, *NOCHG

                                                                Bottom
F3=Exit   F4=Prompt   F7=Add command list   F8=Add job LDA   F12=Cancel

```

Figure 7-9. Add Job (Display 4)

## Holding, Releasing, Resetting, and Submitting Jobs Immediately

Holding, releasing, resetting, and submitting jobs immediately can be performed from the Work with Jobs display. Option 3 (Hold), Option 6 (Release/Reset) and Option 7 (Submit Immediately) from this display are described below.

### 3=Hold

To hold a job, you must type a “3” beside the job or jobs that you want to hold. The job will not be submitted by Job Scheduler until it is released using Option 6 (Release). In the case of a job group, if you hold the first job in a group (sequence number 1), the entire group is placed on hold and none of the jobs in the group will be submitted until the first job in the group has been released. If you put a job that is part of a group on hold, but that job is not the first job in the group, the group will continue to be submitted at its normal time, but the held job will not be submitted.

**Note:** You cannot use Option 3 (Hold a scheduled job) to place a hold on an alternate (\*ALTERNATE) job, a temporary (\*TEMP) job, a dependent job (\*DEPJOB), or a job in process or on the JOBQ.

### 6=Release/Reset

**Release:** A job must be held before it can be released. A released job will run at its next scheduled time. In the case of a group, if you release the first job in a group, the entire group is submitted at the next scheduled time. If a job is not the first job in a group and that job is released, the group is still held.

**Reset:** Jobs are reset when a job that has been submitted has failed or is abnormally ended during processing. Resetting the job recalculates the next scheduled run date for already released jobs.

## 7=Submit immediately

To submit a job immediately, type a “7” by the job or jobs that you want to submit immediately. Submitting a job immediately does not affect its next scheduled run. It does, however, create a temporary version (\*TEMP) of the job entry, which will be removed after the completion of the job.

When using option 7 (Submit immediately) from the Work with Jobs display, you can press F4 which takes you to the Submit Job using Job Scheduler (SBMJOBJS) command. There are two parameters, CHKDEP and UPDDEP, which allow you to specify whether you want to check dependencies before allowing a job to be submitted and whether you want to update the dependencies after the job is completed. See Chapter 9, Job Scheduler Processing Tips for an example of submitting a job immediately.

---

## Changing a Command List

To change the commands that you have set up for a specific job, use Option 8 (Change command list) on the Work with Jobs display. Type an “8” by the job or jobs whose command list that you want to change. You will see the Change Command List display where the job information is displayed and the commands associated with the job are listed for review and change. You can also change the parameters associated with the command list from the Change Command List display.

**Note:** On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

---

## Changing a Local Data Area (LDA)

To change a local data area (LDA) for a specific job, use Option 9 (Change job LDA) on the Work with Jobs display. Type a “9” by the job or jobs whose job LDA you want to change. You will see the Change Job LDA display where the job information is displayed and the LDA associated with the job is listed for review and change.

---

## Setting Up Dependencies

Job Scheduler allows you to set up various dependencies that reflect how jobs are processed in your environment. There are three types of dependencies that you can set up in Job Scheduler and each has an associated option number on the Work with Jobs display. They are:

Number	Type of dependency	Option Number
1	Change job dependencies	Option 10
2	Change active dependencies	Option 21
3	Change resource dependencies	Option 22

## Job Dependencies

In Job Scheduler you can set up jobs or groups of jobs that are dependent on each other. For instance, you could set up a payroll job that will not run at a centralized site until all remote sites have transmitted their payroll data to the central site. Another job that prints the payroll checks could be dependent on the central site processing job being completed before the check printing job can start. These job dependencies are called **predecessor** and **successor** relationships.

## Setting Up Job Dependencies

Job dependencies can be changed using option 10 (Changing job dependencies) of the Work with Jobs display. You can set up an unlimited number of predecessor and successor relationships for jobs. Predecessor jobs are those that must run before the successor job will run. A successor job is a job that runs after all predecessor jobs have been processed. There can be multiple successor jobs for a single predecessor job. A successor job cannot be a job group with a schedule code of \*ALTERNATE.

For instance, JOB1, JOB2, and JOB3 have to run before JOB4 runs. Jobs 1 through 3 can among themselves run in any order or simultaneously, but JOB4 will not start until all are complete. In this example, JOB1, JOB2 and JOB3 are the predecessor jobs and JOB4 is the successor job. To continue the example, JOB5, JOB6 and JOB7 could depend on JOB4 running. In this case, JOB4 is the predecessor job and JOB5, JOB6 and JOB7 are the successor jobs. These types of relationships can be extended indefinitely to define the interrelationships for the jobs that you want to process.

Option 10 (Change job dependencies) on the Work with Jobs display allows you to review or change job dependencies for a job. Following is the Change Job Dependencies display for a job called DEPJB7.

Work with Jobs							RCHAS400
Position to . . . . . _____ Starting characters						9/19/94	8:43:39
Type options, press Enter.							
10=Change job dependencies 11=Start group 12=Copy 13=Edit job authority							
14=Change job documentation 15=Print job documentation...							
Job Opt Name	Group Name	Grp Seq	Status	Schedule Date	Schedule Time	Schedule Code	
<u>10</u> DEPJB7	*NONE	0	*READY	9/15/95	10:00	*DAILY	
— DLTQHST	*NONE	0	*READY	9/15/95	10:00	*NUMDAY	
— EDI_XMIT	*NONE	0	*READY	9/20/94	6:00	*MINUTES	
— EOMSALES	*NONE	0	*READY	9/25/94	19:00	*LASTWRK	
— GLDAILY	GLCYCLE	1	*READY	9/25/94	19:00	*DAILY	
— GLPOST	GLCYCLE	10	*READY	*NONE	20:00	*NONE	
— NOTIFY	*NONE	0	*SAVED	*NONE	10:50	*ONCE	
— PRTERLOG	*NONE	0	*READY	9/20/94	7:00	*DAILY	
— RGZPFM	*NONE	0	*READY	9/20/94	7:30	*LAST	
— SLSCOM	*NONE	0	*READY	9/22/94	0:00	*DAY	

Change Job Dependencies							RCHAS400
Type options, press Enter.							
4=Remove 5=Display 7=Change completion							
8=Change normal completion required							
Opt	Type	Job	Group	Seq	Complete	Completion Required	Description
-	*PREDJOB	DEPJB7	*NONE	0	****	****	*NONE
-	*SUCCJOB	DEPJB8	*NONE	0	*NO	*YES	*NONE
-	*SUCCJOB	DEPJB9	*NONE	0	*NO	*YES	*NONE
-	*SUCCJOB	DEPJB10	*NONE	0	*NO	*NO	*NONE
-	*SUCCJOB	DEPJB11	*NONE	0	*NO	*YES	*NONE
							Bottom
F3=Exit		F5=Refresh		F6=Add		F7=Forward	
F12=Cancel						F8=Backward	

Figure 7-10. Job Dependencies Display

The Change Job Dependencies display shows the job (DEPJB7) that we selected using Option 10 on the Work with Jobs display as the predecessor (\*PREDJOB) job. Four successor jobs (DEPJB8, DEPJB9, DEPJB10, and DEPJB11) are shown as successor (\*SUCCJOB) jobs. A *Type* of \*SUCCJOB indicates that DEPJB8 through DEPJB11 must run after DEPJB7 and are, therefore, successor jobs to DEPJB7.

Following are several other functions available on the Change Job Dependencies display:

### 7=Change completion

Any job in the list of dependent jobs can have its completion changed. Changing the completion status of a job causes the value in the *Complete* field to change from \*YES (completed) to \*NO (not completed) and vice-versa. A value of \*YES is

used to tell Job Scheduler that a job has been processed when in fact it has not. This allows you to continue processing jobs in a successor, predecessor relationship even though one or more of the predecessor jobs may not actually run. A value of \*NO indicates that the job still must run in the successor, predecessor relationship.

### 8=Change normal completion required

The default in a successor, predecessor relationship is that jobs must complete normally before a successor job will run. This is indicated by a \*YES in the *Completion required* field. You can specify also that a job does not have to complete normally for the successor, predecessor relationship by changing \*YES in the *Completion required* field to \*NO. This change is accomplished by using Option 8 (Change normal completion required) by the job that you want to change. You can change it to \*YES from \*NO and vice-versa. A \*NO allows a successor, predecessor series of jobs to continue, even if the job fails.

### F6=Add

If you need to add jobs to a predecessor, successor relationship, press F6 on the Change Job Dependencies display. You are taken to the Add Dependent Job display where you can establish the predecessor, successor relationship.

In the following display, DEPJOB8 is being added as a successor job to DEPJOB7.

Add Dependent Job		RCHAS400
Type choices, press Enter.		
Predecessor:		
Job name . . . . .	<u>DEPJOB7</u>	Name, F4 for list
Group name . . . . .	<u>*NONE</u>	Name, *NONE
Group sequence . . . . .	—	Number
Successor:		
Job name . . . . .	<u>DEPJOB8</u>	Name, F4 for list
Group name . . . . .	<u>*NONE</u>	Name, *NONE
Group sequence . . . . .	—	Number
Normal completion required . .	<u>*YES</u>	*YES, *NO

Figure 7-11. Adding a Successor Job

### F7=Backward

When you press F7, you move backward in the predecessor, successor relationship. In the Change Job Dependencies display DEPJB1 is now the predecessor job for DEPJB7.

```

Change Job Dependencies                                     RCHAS400

Type options, press Enter.
 4=Remove  5=Display  7=Change completion
 8=Change normal completion required

Opt Type      Job      Group   Seq  Complete  Completion  Description
- *PREDJOB    DEPJB8  *NONE   0    ****     ****        *NONE
-  *SUCCJOB    DEPJB12 *NONE   0    *NO      *NO         *NONE
- *PREDJOB    DEPJB9  *NONE   0    *NO      *YES        *NONE
- *PREDJOB    DEPJB10 *NONE   0    *NO      *NO         *NONE
- *PREDJOB    DEPJB11 *NONE   0    *NO      *YES        *NONE

F3=Exit  F5=Refresh  F6=Add  F7=Forward  F8=Backward
F12=Cancel

Bottom

```

Figure 7-12. Change Job Dependencies Display (F7=Backward)

**F8=Forward**

In the Work with Jobs display shown previously, DEPJB7 was chosen by typing a “10” beside DEPJB7 and is shown as the predecessor job on the Change Job Dependencies display. Jobs 8 through 11 are shown as successor jobs. There may be jobs that are successor jobs for jobs 8 through 11. You can use F8 to review the successors, if any, for DEPJB8, DEPJB9, DEPJB10, and DEPJB11 as shown below:

```

Change Job Dependencies                                     RCHAS400

Type options, press Enter.
 4=Remove  5=Display  7=Change completion
 8=Change normal completion required

Opt Type      Job      Group   Seq  Complete  Completion  Description
- *PREDJOB    DEPJB1  *NONE   0    ****     ****        *NONE
-  *SUCCJOB    DEPJB7  *NONE   0    *NO      *NO         *NONE

F3=Exit  F5=Refresh  F6=Add  F7=Forward  F8=Backward
F12=Cancel

Bottom

```

Figure 7-13. Change Job Dependencies Display (F8=Forward)

Job DEPJB8 has a successor job (DEPJB12), while DEPJB9, DEPJB10, and DEPJB11 do not have successor jobs. You can press F8 again to review further successor jobs, if any, until you reach the end of the list.

## Active Dependencies

Active dependencies are lists of jobs that cannot be active when the selected job is to be submitted. If Job Scheduler determines that any of the jobs are active, then Job Scheduler will not let the specified job run. The specified job will be delayed until all the jobs in the list are inactive. You can specify \*ALL for the job name when specifying a group. This could allow an active dependency to be based on no jobs in a group being active. If you specify \*ALL for the job name, you cannot specify \*NONE in the group name field.

For example, if you are using Job Scheduler to start a job that backs up a major database file in your company, you do not want updates to the database occurring during the backup process. Using active dependencies you could create a list of jobs that cannot be active when the database backup job is ready for submission. If any of the jobs are active, the database backup will be delayed until the jobs are complete.

## Setting Up Active Dependencies

The following display is an example of a job (ACTIVE1) with two jobs in its active dependency list, ACTIVE2 and ACTIVE3. You can reach the Change Active Dependencies display by typing a "21" beside ACTIVE1 on the Work with Jobs display. If ACTIVE2 or ACTIVE3 are active when ACTIVE1 is ready for submission, Job Scheduler will delay the submission until both jobs (ACTIVE2 and ACTIVE3) are complete.

For active job dependencies, you can set the number of minutes that a job waits for the dependency condition to occur before Job Scheduler resets the job. For instance, if JOB A is scheduled to run at 11:00 and is dependent on the inactivity of JOB B, and the wait limit for JOB A is set at 60 minutes, then JOB A will wait 60 minutes for JOB B to become inactive. If JOB B is still active at 12:00, Job Scheduler resets JOB A, logs this to the Job Scheduler log, and notifies the operator that JOB A did not run and that JOB A has been reset. If the JOB B is not active within the 60 minute wait limit, JOB A is processed.

```
Change Active Dependencies                                RCHAS400
Job name . . . . . : ACTIVE1
Group name . . . . . : *NONE
Group sequence . . . . . : 0
Text . . . . . : *NONE
Wait limit . . . . . : *NOMAX           Minutes, 1-9999, *NOMAX

Type options, press Enter.
  1=Add  4=Remove

  Opt  Job      Group      Grp
      Name     Name       Seq  Text
  ---  -
  -    ACTIVE2  *NONE      0    *NONE
  -    ACTIVE3  *NONE      0    *NONE
```

Figure 7-14. Change Active Dependencies Display

## Resource Dependencies

There are four types of resource dependencies that you can set up for jobs in Job Scheduler. They are:

- Object dependencies - tests whether an object exists to determine if a job can be processed by Job Scheduler.
- Configuration status dependencies - tests the status of various configuration components including device, controller, network interface and communication lines. The status determines whether Job Scheduler processes a job.
- Network file dependencies - tests whether a network file exists to determine if a job can be processed by Job Scheduler.
- Subsystem dependencies - tests whether a subsystem is active to determine if a job can be processed by Job Scheduler.

## Setting Up Resource Dependencies

Resource dependencies are changed using option 22 of the Work with Jobs display. An example of a resource dependency is illustrated as follows. A central site receives order information from a remote site. An order processing job is scheduled to run at the central site only after the order entry file is received from the remote site. In this example you would set up an object dependency for the file being sent from the remote site with an object existence indication of \*YES. This means that before the job on the central site can process, the specified object, which in our example would be the remote site's order file, must exist. A further check could be put on the file being sent from the remote site. When you add the file to the object dependency list, you can specify whether or not the file must contain records. You can set an additional restriction that an allocation level of exclusive (\*EXCL) on the object from the remote site must exist before the job on the central site can run.

Following is the Change Resource Dependencies display for a job called OBJDEP1. To arrive at this display, type "22" by the job in the Work with Jobs display and press the Enter key.

```

Change Resource Dependencies
RCHAS400

Job name . . . . . : OBJDEP1
Group name . . . . . : *NONE
Group sequence . . . . . : 0
Text . . . . . : *NONE
Wait limit . . . . . : *NOMAX           Minutes, 1-9999, *NOMAX

Type options, press Enter.
  1=Add  2=Change  4=Remove  5=Display

Opt Type      Object      Library  Exist
- - - - -
- *LINSTS     QESLINE   QSYS     *NO
- *CTLSTS     RMTCTL    QSYS     *YES
- *DEVSTS     TAP01     QSYS     *YES
- *NWISTS     BYLIB     QSYS     *YES
- *NETF       BYFILE    BYLIB    *NO
- *SBSSTS     QBATCH    QSYS     *NO
- *PGM        BYPGM     BYLIB    *YES
- *FILE       PAY       PAYLIB   *YES

```

Figure 7-15. Change Resource Dependencies Display

Each of the types of resource dependencies are illustrated in the previous example. You can use any AS/400 object type and any of six keywords including:

- \*LINSTS - communication line status
- \*CTLSTS - controller status
- \*DEVSTS - device status
- \*NWISTS - network interface status
- \*NETF - network file status
- \*SBSSTS - subsystem status
- object type - status of the specified object, for example, \*FILE

As indicated in the previous example, you can specify additional parameters for the resource, such as the existence of records and exclusive allocation. Following is an example of a resource dependency for an object called BYPGM that is found in BYLIB. When Job Scheduler processes job OBJDEP1, the program object BYPGM is checked for existence. If the object exists, job OBJDEP1 is allowed to process. If not, Job Scheduler waits until BYPGM exists or the time limit specified in the wait limit is exceeded. Note that the program must exist and the allocate level must be shared.

```

                                Display Object Dependency                                RCHAS400
Job name . . . . . : OBJDEP1
Group name . . . . . : *NONE
Group sequence . . . . . : 0
Text . . . . . : *NONE

Type . . . . . : *PGM
Object . . . . . : BYPGM
Library . . . . . : BYLIB
Exist . . . . . : *YES
Allocate level . . . . . : *SHRRD

```

Figure 7-16. Display Object Dependency Display

Each object dependency display varies slightly and should be reviewed with its accompanying help information.

## Job Authority

Job Scheduler allows you to assign, authorize, or restrict users at the job level. In “Setting Up System Controls” on page 4-1, there is a discussion of various function controls that you can set at a high level for the system within Job Scheduler. You can use Option 13 (Edit job authority) to further refine the overall authority down to the job level.

## Assigning Job Authority

To assign job authority or review the job authority, type “13” by the job entry in the Work with Jobs display. You will see the Edit Job Authority display where you can assign the job authorities to the job that you have chosen.

```

                                Edit Job Authority                                RCHAS400
Job name . . . . . : APDAILY
Group Name . . . . . : *NONE
Group Sequence . . . . . : 0
Text . . . . . : Accounts payable daily job

Type changes to current authorities, press Enter.

      Job
User      Authority  Submit  Mgt  Aut  Display  Cpy  Update  Remove
*PUBLIC  *ALL           X     X   X     X     X     X     X
HEATHER  *USRDFN        -     X   -     X     -     -     -
JOE      *ALL           X     X   X     X     X     X     X
JOY      *EXCLUDE        -     -   -     -     -     -     -
PSF      *ALL           X     X   -     X     X     X     X
QSYSOPR *OPER           X     X   -     X     -     -     -

F3=Exit   F5=Refresh   F6=Add new users   F12=Cancel
F17=Top   F18=Bottom

                                Bottom

```

Figure 7-17. Edit Job Authority Display

The Edit Job Authority display shows a list of the current users authorized to a job and the authority levels that each user has been assigned. You can add users to the list, remove users from the list, and change the authority levels of each user.

When the authority of a job is checked, Job Scheduler first checks the user profile. If the user profile is not found, Job Scheduler checks for a group profile. If neither is found, Job Scheduler checks \*PUBLIC.

You can specify authority levels in one of two ways for a job:

- Assign one of the predefined values for job authority level (\*USE, \*ALL, \*CHANGE, \*OPER or \*EXCLUDE).
- Assign user-defined authority levels. User-defined authority levels are created by placing or removing X's from the columns in the Edit Job Authority display. User-defined authority assignments are designated as \*USRDFN in the "Job Authority" column. Whichever technique you use, Job Scheduler determines the job authority values or specific authorities based on the information you have typed. If you type both job authority values and specific authorities for a user, the specific authorities will be used.

To change the authority level of a user, type over the appropriate columns in the user's row. Except for the "Job Authority" column, you give the user the named authority by typing an "X" in the column. To change the "Job Authority" column, type the new authority over the current authority.

To add users to the list, press the F6 key (Add new users) to get another display, similar to this display, where you can type the new user and the desired authority levels. To remove users from the list, type blanks into all of the authority columns (including the Job Authority column) that are shown.

Job Scheduler applies the authority changes only after you have pressed the Enter key. When you press the Enter key on a display after keying updates, you are shown the list again with the updates applied. If you press the Enter key again, without making any changes, the system returns you to where you were when you requested the edit function.

## Viewing Run Calendars

To review a run calendar for any job in the Work with Jobs display, type a "16" by the job and press the Enter key. You will see the Display Run Calendar display where you can review monthly calendars that show the days that a job is scheduled to run. You can review an unlimited number of months for the job that you select. Scheduled days are highlighted. If the day that the job is scheduled to run falls on a holiday, the substituted day that is specified in the Work with Holiday Calendars is highlighted.

The run calendar for job CHGAUT is shown on the following display. The schedule code for CHGAUT is \*DAILY, Monday, and Wednesday of each week. The display was accessed on 9/20/94 which is a Tuesday. Each Wednesday and Monday that remains in September of 1994 is highlighted. You can use the roll keys to review future months, which will have Mondays and Wednesdays highlighted.

Display Run Calendar							RCHAS400
						9/20/94	15:14:41
Job name	. . . . . : CHGAUT						
Group name	. . . . . : *NONE						
Group sequence	. . . . . : 0						
Status	. . . . . : *READY						
Schedule code	. . . . . : *DAILY						
Text	. . . . . : Change Menu authority						
September 1994							
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	<b>21</b>	22	23	24	
25	<b>26</b>	27	<b>28</b>	29	30		
F3=Exit    F12=Cancel							
						Roll for next month	

Figure 7-18. Run Calendar Display

## Other Options on the Work with Jobs Display

The previous pages have described the majority of functions available on the Work with Jobs display. There are other important and useful functions described as follows.

### 4=Remove

If you want to remove a job from the job list, type a “4” beside the job or jobs on the Work with Jobs display and press the Enter key. You will see the Confirm Remove of Jobs display where you can confirm or cancel the requested job removal. Following is the Confirm Remove of Jobs display.

```

                                Confirm Remove of Jobs
                                RCHAS400
                                9/20/94 15:24:14
Press Enter to confirm your choices for 4=Remove.
Press F12 to return to change your choices.

Job      Group      Grp      Schedule  Schedule  Schedule
Opt Name  Name        Seq      Date      Time      Code
 4 CHGAUT *NONE     0        9/21/94   7:00     *DAILY

```

Figure 7-19. Confirm Remove of Jobs Display

### 11=Start group

Option 11 (Start group) on the Work with Jobs display is used to start job group processing at the selected sequence of the group. To start a group that is on hold, select the sequence number 1 job to start. Held jobs that are a member of a group greater than sequence number 1 jobs will not start until released.

### 12=Copy

Option 12 (Copy) is used to copy an existing job to create a new job that you name. Type a “12” by the job or jobs you want to copy and press the Enter key. You will see the Copy Job using Job Scheduler (CPYJOBJS) display where you can enter the “To job entry” and group information if applicable. An important option to consider is whether to copy dependency information from the old job to the new job. The default value is \*NO.

You can also choose to copy the job to a remote location if you have multiple systems in your network.

**Note:** If you want to copy all jobs in a group, you must enter the CPYJOBJS on a command line, rather than using option 12, which is for a single job. When copying a group, you must specify \*ALL in the Job and Group sequence fields for the From job, and \*SAME in the Job and Group sequence fields for the To job.

The Copy Job using Job Scheduler (CPYJOBJS) command is shown as follows.

```

Copy Job using Job Scheduler (CPYJOBJS)

Type choices, press Enter.

From job entry:
Job . . . . . > APDAILY      Name
Group . . . . . > *NONE       Name, *NONE
Group sequence . . . . . > *NONE    1-99, *NONE
To job entry:
Job . . . . .      NEWJOB      Name
Group . . . . .      *NONE       Name, *NONE
Group sequence . . . . . *NONE    1-99, *NONE
Copy dependencies . . . . . *NO      *NO, *YES

```

Figure 7-20. Copy Job using Job Scheduler Command

**14/15=Change/Print job documentation**

Option 14 is used to view or record job documentation for each job in the Work with Jobs list. You can use Option 15 to print the associated text.

**Note:** On full screen edit displays, you must press Enter to save your changes, and Enter again to exit the display. If you make changes and press F3 or F12, you will exit without saving your changes.

**17=Omit next run**

Option 17 is used to skip the next scheduled run of a job. The job that you omitted will submit normally after the omitted run. Processing Option 17 multiple times for a job will omit the job multiple times.

You cannot omit jobs with certain schedule codes. The following reasons are used to indicate jobs that cannot be omitted:

- Jobs with schedule codes \*ALTERNATE or \*TEMP cannot omit next runs.
- Jobs without a next schedule date cannot omit next run.
- Jo status indicates that the job is on the job queue or in process.
- Jobs with status of \*HELD cannot omit next run.

When you process option 17 for schedule code \*NONE, the Job Status field changes to \*OMIT.

**18=Rename job**

Option 18 allows you to rename a job in the Work with Jobs display. When you type 18 by a job and press the Enter key, you are taken to the Rename Job using Job Scheduler (RNMJOBJS) command where you can rename the selected job.

**19=Work with history**

Option 19 allows you to work with the job history associated with a job or jobs that you select. You are taken to the Work with History display where you can work with the history for the selected job.

## 20=Display log

Option 20 allows you to display Job Scheduler log entries associated with a job or jobs that you select. You are taken to the Display Log for Job Scheduler display.

## 23=Work with report distribution entries

Option 23 allows you to Work with Report Distribution entries for a job or jobs that you select. See Chapter 8, Report Distribution of this book for more information on report distribution.

## 24=Work with job (WRKJOB)

Option 24 allows you to work with the last submitted job. From there the job can be held, released, ended, and so on. Option 24 processes the OS/400 WRKJOB command.

## F10=Work with job defaults

Function key 10 allows you to work with job defaults for Job Scheduler. You see the Work with Job Defaults display where you can work with the defaults for jobs that you add to Job Scheduler or defaults used during processing.

## F11=Job schedule/Job statistics/Job text/Dependencies

Function key 11 allows you to see three views of the Work with Jobs display. The function for F11 changes depending on the Work with Jobs display that you are using. Each view is shown.

### The first view shows job schedule.

```
Work with Jobs                                     RCHAS400
                                                    9/20/94 16:13:37
Position to . . . . . _____ Starting characters
Type options, press Enter.
 10=Change job dependencies  11=Start group  12=Copy  13=Edit job authority
 14=Change job documentation 15=Print job documentation...

  Job      Group      Grp      Schedule  Schedule  Schedule
Opt Name   Name        Seq      Date      Time      Code
---
--- ABACKUP  *NONE       0  *HELD    9/15/95   10:00   *DATE
--- ABRM400  *NONE       0  *HELD    9/21/94    6:00   *DAILY
--- ALINECNT *NONE       0  *READY   9/25/94   19:00   *DAILY
--- BLINECNT *NONE       0  *HELD    9/25/94   19:00   *DAILY
--- BRM_MSGS *NONE       0  *READY   9/25/94   20:00   *DAILY
--- BUILDBRM *NONE       0  *READY   9/25/94   10:50   *DAILY
--- CHGAUT   *NONE       0  *READY   9/21/94    7:00   *DAILY
--- CHGCMDDFT *NONE       0  *HELD    9/21/94    7:30   *DAILY
--- CONTACT *NONE       0  *READY   *NONE     0:00   *ALTERNATE
                                                    More...

Parameters for options 2, 5, 7, 11, 12, 18, 19, 20 or command
==>
F3=Exit    F4=Prompt  F5=Refresh  F11=Job statistics  F12=Cancel
F13=Repeat F15=Sort date  F23=More options  F24=More keys
```

Figure 7-21. Work with Jobs (by Job Schedule)

**The second view shows job statistics.**

```

                                Work with Jobs                                RCHAS400
                                                                9/21/94 11:17:45
Position to . . . . . _____ Starting characters

Type options, press Enter.
  1=Add   2=Change   3=Hold   4=Remove   5=Display   6=Release/Reset
  7=Submit immediately 8=Change command list 9=Change job LDA...

   Job      Group      Grp  ----- Last run -----
Opt Name    Name        Seq   Date   Start   End   Elapsed  Completion
-----
--- ABACKUP  *NONE        0    9/15/94 10:01 10:53   0:52  *NORMAL
--- ABRM400  *NONE        0   10/07/94 6:01  6:08   0:00  *NORMAL
--- ALINECNT *NONE        0   9/18/94 19:01 19:11   0:10  *NORMAL
--- BLINECNT *NONE        0   9/04/94 23:53  0:16   0:23  *NORMAL
--- BRM_MSGS *NONE        0   9/18/94 20:00 20:15   0:15  *NORMAL
--- BUILDBRM *NONE        0   9/18/94 10:51 18:36   7:45  *NORMAL
--- CHGAUT   *NONE        0   9/21/94  7:00  7:01   0:01  *NORMAL
--- CHGCMDDFT *NONE        0   9/20/94  7:30  7:30   0:01  *NORMAL
--- CONTACT  *NONE        0  *NEW      0:00  0:00   0:00  *NEW
                                                                More...

Parameters for options 2, 5, 7, 11, 12, 18, 19, 20 or command
==>
F3=Exit   F4=Prompt   F5=Refresh   F11=Job statistics  F12=Cancel
F13=Repeat F15=Sort date  F23=More options  F24=More keys

```

Figure 7-22. Work with Jobs (by Job Statistics)

**The third view shows job text.**

```

                                Work with Jobs                                RCHAS400
                                                                9/21/94 11:19:58
Position to . . . . . _____ Starting characters

Type options, press Enter.
  1=Add   2=Change   3=Hold   4=Remove   5=Display   6=Release/Reset
  7=Submit immediately 8=Change command list 9=Change job LDA...

   Job      Group      Grp  Application Text
Opt Name    Name        Seq
-----
--- ABACKUP  *NONE        0  *NONE          *NONE
--- ABRM400  *NONE        0  *NONE          X-ref objects to create database
--- ALINECNT *NONE        0  *NONE          Source line count
--- BLINECNT *NONE        0  *NONE          Source count for Job Scheduler
--- BRM_MSGS *NONE        0  *NONE          *NONE
--- BUILDBRM *NONE        0  *NONE          *NONE
--- CHGAUT   *NONE        0  *NONE          Change Menu authority
--- CHGCMDDFT *NONE        0  *NONE          *NONE
--- CONTACT  *NONE        0  *NONE          Contact Analyst if abnormal end
                                                                More...

Parameters for options 2, 5, 7, 11, 12, 18, 19, 20 or command
==>
F3=Exit   F4=Prompt   F5=Refresh   F11=Job statistics  F12=Cancel
F13=Repeat F15=Sort date  F23=More options  F24=More keys

```

Figure 7-23. Work with Jobs (by Job Text)

**The third view shows dependencies.**

```

Work with Jobs
RCHAS400
9/21/94 11:19:58
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add   2=Change   3=Hold   4=Remove   5=Display   6=Release/Reset
  7=Submit Immediately 8=Change command list 9=Change job LDA...

Job      Group      Grp  ----- Dependencies -----
Opt Name Name      Seq  Predecessor Successor Resource Active
-----
--- ABACKUP  *NONE      0      *NO      *NO      *NO      *NO
--- ABRM400  *NONE      0      *NO      *NO      *YES     *NO
--- ALINECNT *NONE      0      *YES     *NO      *YES     *NO
--- BLINECNT *NONE      0      *NO      *YES     *NO      *YES
--- BRM_MSGS *NONE      0      *NO      *NO      *NO      *NO
--- BUILDBRM *NONE      0      *YES     *NO      *NO      *YES
--- CHGAUT   *NONE      0      *NO      *YES     *NO      *NO
--- CHGCMDDFT *NONE      0      *NO      *NO      *YES     *NO
--- CONTACT *NONE      0      *NO      *NO      *NO      *NO
More...

Parameters for options 2, 5, 7, 11, 12, 18, 19, 20 or command
==>
F3=Exit   F4=Prompt  F5=Refresh F11=Job statistics F12=Cancel
F13=Repeat F15=Sort date F23=More options F24=More keys

```

Figure 7-24. Work with Jobs (by Dependencies)

**F13=Repeat**

Press F13 to repeat any valid option from a particular item downward to the end of the list in the Option column. Options next to preceding items in the list, ahead of that item, are left alone.

**F15=Sort date**

The F15 function key allows you to sort the Work with Jobs display by date, group, and job.

**F17=Subset**

The F17 function key allows you to create subsets of the Work with Jobs display. For instance, if you wanted to create a Work with Jobs display that only displayed jobs for a specific application and schedule code, you could do so using F17 (Subset).

When you press F17 from the Work with Jobs display you see the Job Subset List where you can specify exactly what jobs should be in the resulting Work with Jobs display. You can continue to press F17 from the Work with Jobs display to further subset the list.

## Running Jobs on Network Systems

When you add a job to the Job Scheduler job schedule, the default remote location name is \*JOBCTL. This means that the system on which the job is to be run is “inherited” from the Job Scheduler job defaults. Normally the default is the local system, \*LCL.

You can, however, specify the remote location name of another system in the network. In this case, you have specified that you want to run the job that you are adding on a network system rather than the local system.

The *Remote location name* is specified on the second page of the following Add Job display.

```

                                     Add Job                                     RCHAS400

Type choices, press Enter.

Remote location name . . . . . ABM400
Start time and date:
  Beginning time . . . . . *NONE      Time, *NONE
  Beginning date . . . . . *NONE      Date, *NONE
End time and date:
  Ending time . . . . . *NONE        Time, *NONE
  Ending date . . . . . *NONE        Date, *NONE
Maximum run time . . . . . *NOMAX    Minutes, 1-9999, *NOMAX
Pager recipient normal . . . . . *JOBCTL Name, *NONE, *JOBCTL
  Pager message . . . . . *JOBCTL
Pager recipient abnormal . . . . . *JOBCTL Name, *NONE, *JOBCTL
  Pager message . . . . . *JOBCTL
Alternate job . . . . . ALT1        Name, *NONE, F4 for list
  Group name . . . . . *NONE        Name, *NONE
  Group sequence . . . . .          Number
Report distribution ID . . . . . *NONE Name, *NONE, F4 for list
Recovery action . . . . . *JOBCTL  *SBMRLS, *SBMHL D, *NOSBM...

                                     More...
F3=Exit   F4=Prompt   F7=Add command list   F8=Add job LDA   F12=Cancel
```

Figure 7-25. Add Job (Specifying a Network System)

In the previous example, the job that you are adding has been added to run on a system called ABM400, even though the job is being added on system RCHAS400.

## Requirements to Run on a Network System

To run a Job Scheduler job on a system other than the local AS/400 system, there are only two requirements. These are:

- You must have a copy of Job Scheduler on the local system and the network system.
- You must have set up the relationship between the local and the network system in configuring your system. Job Scheduler uses distributed data management to communicate job information between a local and a network system.

When Job Scheduler on a local system sees that a job is to run on a network system, Job Scheduler on the local system checks to be sure the monitor on the

network system is active, and if not, activates the monitor on the network system. The commands for the job specified on the local system are processed on the network system. The history and log for the job are kept on the local system.

---

## Chapter 8. Report Distribution

Job Scheduler report distribution provides you with a method of managing the distribution of reports and their associated spooled files to recipients that you specify. Using user-defined identifiers called report distribution IDs, you can group spooled files that are generated from lists of programs you define. When you add a job to the list of jobs that Job Scheduler is managing, you can add a report distribution ID to the job so that output from the job will be automatically distributed to the recipients specified in the report distribution ID.

---

### Using the Report Distribution Menu

You can access the Report Distribution menu by choosing Option 10 (Report Distribution) from the main menu or by using menu traveling GO JSRPTDST. The Report Distribution menu is shown in the following display.

```
JS                               Job Scheduler for OS/400                System:  RCHAS400
Select one of the following:
    1. Work with jobs
    2. Job history information
    3. Job reports
    4. Job controls
    5. System controls
-->10. Report distribution
```

```
JSRPTDST                         Report Distribution                System:  RCHAS400
Select one of the following:
    1. Send reports
    2. Report controls
    3. Report distribution reports
```

Figure 8-1. Report Distribution Menu

---

### Report Controls

Reports controls permit you to specify table entries for companies, divisions, locations, departments, and managers that you want to associate with each recipient that you set up. All controls related to report distribution are set up on the Report Controls menu. These controls include setting up report distribution IDs and recipients for the spooled files that you are generating.

## Accessing the Report Controls Menu

To access the Report Controls menu, select option 2 (Report controls) on the Report Distribution menu.

```
JSRPTDST                      Report Distribution                      System:  RCHAS400
Select one of the following:
    1. Distribute reports
-->  2. Report controls
    3. Report distribution reports
```

```
JSRPTCTL                      Report Controls                      System:  RCHAS400
Select one of the following:
    1. Work with report distribution IDs
    2. Work with recipients
    3. Work with companies
    4. Work with divisions
    5. Work with locations
    6. Work with departments
    7. Work with managers
```

Figure 8-2. Report Controls Menu

## Report Distribution IDs

Report distribution IDs are used to group report distribution entries. The report distribution ID can then be associated with a job that Job Scheduler is scheduling. When the job runs, it identifies the report distribution ID and distributes reports from the job based on the entries within the report distribution ID. Each report distribution entry has recipients associated with it.

Each recipient can have a company, division and so on associated with it.

## Setting Up Report Distribution

The following example is used to illustrate the relationship previously described. A sales reporting job has been set up in the job schedule called DAILYSALES. This job produces spooled files that you want to distribute using the entries in the report distribution ID SLSCOM.

```

                                Display Job                                RCHAS400
Remote location name . . . . . : *JOBCTL
Start time and date:
  Beginning time . . . . . : *NONE
  Beginning date . . . . . : *NONE
End time and date:
  Ending time . . . . . : *NONE
  Ending date . . . . . : *NONE
Maximum run time . . . . . : *NOMAX
Pager recipient normal . . . : *JOBCTL
  Pager message . . . . . : *JOBCTL
Pager recipient abnormal . . : *JOBCTL
  Pager message . . . . . : *JOBCTL
Alternate job . . . . . : *NONE
  Group name . . . . . : *NONE
  Group sequence . . . . . :
Report distribution ID . . . : SLSCOM
Recovery action . . . . . : *JOBCTL

Press Enter to continue.

F3=Exit    F5=Refresh    F7=Display command list  F8=Display job LDA
F12=Cancel F14=Display job dependencies  F24=More keys
More...

```

Figure 8-3. Displaying a Job that Uses Report Distribution

Using Option 1 (Work with report distribution IDs) from the Report Controls menu, you can go to the Work with Report Distribution IDs display where all report distribution IDs are set up. The Work with Report Distribution IDs display which shows the report distribution ID SLSCOM follows.

```

JSRPTCTL                               Report Controls                               System:  RCHAS400
Select one of the following:
--> 1. Work with report distribution IDs
    2. Work with recipients
    3. Work with companies
    4. Work with divisions
    5. Work with locations
    6. Work with departments
    7. Work with managers

```

```

                               Work with Report Distribution IDs                               RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add  2=Work with report distribution entries  3=Copy  4=Remove
  5=Display  6=Work with jobs
Opt   Distr ID   Text
-     _____
-     SLSCOM     Sales commission distribution

```

Figure 8-4. Work with Report Distribution IDs Display

To review the entries that are represented by the report distribution ID SLSCOM, use Option 2 (Work with report distribution entries). You will see the Work with Report Distribution Entries display. In this example there are three spooled file entries that you want to distribute. Each spooled file has the program that produces the spooled file, user data, and text associated with the entry. Thus, when job DAILYSALES runs, it will distribute the Management Forecast Report, Order Summary by Salesman, and Salesman Listing.

```

                               Work with Report Distribution Entries                               RCHAS400
Report distribution ID . . . . . :  SLSCOM
Text . . . . . :  Sales commission distribution
                               Position to . . . . . _____
Type options, press Enter.
  1=Add  2=Work with report distribution recipients  3=Copy  4=Remove
  5=Display
Opt   Spooled   Program   User Data   Remove   Text
     File      Name      Data      File      Text
-     _____
-     *ALL      *ALL      MGR        *NO      Management forecast report
-     *ALL      SLS050    *ALL      *YES     Order summary by salesman
-     QPRINT    SLS001    *ALL      *YES     Salesman listing

```

Figure 8-5. Working with Report Distribution Entries

## Specifying Report Distribution Recipients

As indicated previously, three reports will be distributed as a result of running the DAILYSALES job. However, you may want different recipients to receive each of the reports, or one recipient to receive them all and another recipient receive only one of them. Recipients for spooled file entries are assigned using Option 2 (Work with report distribution recipients). The following Work with Report Distribution Recipients display is shown for the Management Forecast Report entry.

```

                                Work with Report Distribution Recipients                                RCHAS400
Report distribution ID . . . . . : SLSCOM
Spooled file . . . . . : *ALL
Program name . . . . . : *ALL
User data . . . . . : MGR
Text . . . . . : Management forecast
report
-----
Type options, press Enter.                                Position to . . . . . _____
  1=Add 2=Change 3=Copy 4=Remove 5=Display 7=Change special instructions

Opt Recipient      Output      Library      Copies  Formtype      User      Address
   -  -----      *RCP
   -  BILLD          *RCP          2          *SPLF         *NONE     *LCL
   -  ED             *RCP          5          *SPLF         *NONE     *LCL
   -  JOE            *RCP          *SPLF     *SPLF         *NONE     *LCL
  
```

Figure 8-6. Working with Report Distribution Recipients

There are three recipients who are to receive the Management Forecast Report. Along with the recipient ID, information is recorded for each recipient regarding where the report is to be printed, how many copies are to be produced, and what type of form is to be used for the report.

**Note:** You can distribute reports to any user on the network by using the combination of the User and Address fields.

Additional information can be assigned to each recipient by using Option 2 (Change Report Distribution Recipient display). This includes whether or not you want to hold or save spooled files and whether or not you want to print a banner page for the reports that you produce. The banner page will contain all the information about each recipient including recipient name, telephone number, manager, company, division, location, department, and special instructions. Special instructions are added using Option 7 on the Work with Report Distribution Recipients display.

```

Change Report Distribution Recipient                                RCHAS400
Report distribution ID . . . . . : SLSCOM
Spooled file . . . . . : *ALL
Program name . . . . . : *ALL
User data . . . . . : MGR
Recipient . . . . . : BILLD

Type choices, press Enter.

Output queue . . . . . *RCP      Name, *RCP, *SPLF, *USER
  Library . . . . . _____ Name, *LIBL
Copies . . . . . *SPLF      1-99, *SPLF
Form type . . . . . *SPLF      Name, *SPLF
User ID:
  User ID . . . . . *NONE      Name, *NONE
  Address . . . . . *LCL      Name, *LCL
Hold spooled file . . . . . *SPLF *YES, *NO, *SPLF
Save spooled file . . . . . *SPLF *YES, *NO, *SPLF
Print banner . . . . . *YES      *YES, *NO

```

Figure 8-7. Change Report Distribution Recipient Display

## Adding, Changing, and Viewing Recipient Information

You can add, change, or review information about report distribution recipients using the Work with Recipients display. You reach this display by selecting Option 2 from the Report Controls menu.

```

JSRPTCTL                               Report Controls                               System:  RCHAS400
Select one of the following:
    1. Work with report distribution IDs
-->  2. Work with recipients
    3. Work with companies
    4. Work with divisions
    5. Work with locations
    6. Work with departments
    7. Work with managers

```

```

                               Work with Recipients                               RCHAS400
Position to . . . . . _____ Starting characters
Type options, press Enter.
  1=Add  2=Change  4=Remove  5=Display  7=Rename

Opt Recipient  Text                               Phone number
-  _____  -
-  BILLD      Bill Douglas                       918-555-4896
-  ED         Ed Diehl                          918-555-2345
-  JIMB       Jim Bryant                         918-555-7461
-  JOE        Joe Woodruff                      918-555-7809
-  TEDW       Ted Webb                          918-555-9695

```

Figure 8-8. Work with Recipients Display

For each recipient, you can specify information to further identify the recipient and assist in report distribution. The following Change Recipient display is shown for the first recipient in the Work with Recipients display, BILLD. For each recipient you can specify which days of the week that they are to receive reports. You can rename a recipient and this name is used throughout the report distribution part of Job Scheduler.

```

                               Change Recipient                               RCHAS400
Recipient . . . . . :  BILLD
Type changes, press Enter.
Company . . . . . *NONE Name, *NONE, F4 for list
Division . . . . . *NONE Name, *NONE, F4 for list
Location . . . . . *NONE Name, *NONE, F4 for list
Department . . . . . *NONE Name, *NONE, F4 for list
Manager . . . . . *NONE Name, *NONE, F4 for list
Phone number . . . . . 918-555-4896
Output queue . . . . . PRT01 Name
Library . . . . . *LIBL Name, *LIBL
Days . . . . . *SUN *MON *TUE *WED *THU *FRI *SAT.
Text . . . . . Bill Douglas
_____

```

Figure 8-9. Change Recipient

For each recipient you can assign company, division, location, department, and manager information. This information is used when banner pages are produced and also in various reports. Each of these fields has the F4 function available which provides a pop-up window to the corresponding table entries. You can also specify the days of the week that the recipient is to receive reports using the *Days* field.

## Using the SDRPTJS Command

Option 1 of the Report Distribution menu allows you to distribute reports for the job and report distribution ID that you specify. To do this, you use the SDRPTJS command. This command can also be used outside of Job Scheduler in a user's control language program for distributing reports assigned to the report distribution ID to the specified users (recipients).

The Send Reports using Job Scheduler (SDRPTJS) command is shown in the following display:

```
Send Reports using JS (SDRPTJS)

Type choices, press Enter.

Report distribution ID . . . . . SLSCOM      SLSCOM
Job . . . . . DAILYSALES      Name, *
User . . . . . QSYSOPR       Name
Number . . . . . 017792      000000-999999
```

Figure 8-10. Send Reports using Job Scheduler Command

---

## Chapter 9. Job Scheduler Processing Tips

Following are examples of how to use Job Scheduler features to handle your typical day-to-day processing needs.

---

### Using Parameters Within a Command

Parameters are defined using option 7 of the Job Controls menu.

When using Job Scheduler parameters within a command, preface the parameters with an ampersand "&" character. For instance:

```
CALL PGMX PARM('&FRMDATE' '&TODATE')
```

During the processing of this command, the parameter data for the FRMDATE and TODATE parameters will replace the names of the parameters in the command string.

The Submit Job using Job Scheduler (SBMJOBJS) and Start Group using Job Scheduler (STRGRPJS) commands allow you to specify the parameters and user defined parameter data to be used when processing any command that refers to the parameters specified. Parameters used in a command string that are not specified in the SBJOBJS or STRGRPJS commands will default to the data specified within the parameter definition.

#### Notes:

1. No check will be made against the use of an individual parameter prior to its removal. If a parameter is removed and a Job Scheduler job requires the use of that parameter, the job will end abnormally when processing the command.
2. Job Scheduler parameters can only be used with character type command parameters.

The following are examples of using parameters:

```
CALL PGMX PARM('&FRMDATE' '&TODATE')
```

```
CALL PGMX PARM('&FRMDATE      &TODATE')
```

```
CALL PGMX PARM('&FRMDATE&TODATE')
```

---

### Changing Job Authority Globally

A job's authority can be changed using option 13 of the Work with Jobs display. This display shows a list of the current users authorized to a job and the authority levels assigned to each user. You can add users to the list, remove users from the list, and change the authority levels of users.

Authority can be changed globally through the Change Job Authority (CHGAUTJS) command. This command can be processed on any command line or accessed through option 5 of the System Controls menu. You can select specific jobs,

generic jobs, or all jobs, as well as the group and application whose authority you want to change.

## Removing Job Authority Globally

Authority can be removed globally through the Change Job Authority (CHGAUTJS) command. You specify CHGAUTJS AUT(\*REMOVE) and the name of the job or jobs and specified user from which you want to remove authority. This command can be processed on any command line or accessed through option 5 of the System Controls menu. You can select specific jobs, generic jobs, or all jobs, as well as the group and application whose authority entry you want to remove for the selected user.

## Assigning New Job Authority

The authorities for a new job are set using option 4 of the System Controls menu. To change the authorities that will be applied to new jobs, select option 2 for the \*NEWJOB function. This will access the Edit Function Authority display where users can be added or authorities changed. The user adding the job will automatically get \*ALL authority assigned to the new job.

## How Job Scheduler Checks Authority

When the authority of a job is checked, Job Scheduler first checks the user profile. If the user profile is not found, Job Scheduler checks for a group profile. If neither is found, Job Scheduler checks \*PUBLIC. Users with \*ALLOBJ, \*SECADM, or \*SECOFR authorities will automatically have \*ALL authority to all jobs and \*USE authority to all functions.

---

## Using Job Groups

Job groups are Job Scheduler jobs grouped together to run consecutively in the order specified in the group sequence field. A normal completion is required before the next job of the group will be submitted. The first job within a group must have a sequence of 1 and is the controlling job for scheduling information. Any subordinate job (sequence greater than 1) will be bypassed if the job's status is held (\*HELD). Holding the sequence 1 job will hold the entire group.

Job groups can be started using the Start Group using Job Scheduler (STRGRPJS) command. This command can be processed from any command line or accessed through option 11 on the Work with Jobs display. The group will start with the first job you specify and will submit all jobs that follow that job. For instance, if a group contains 10 jobs, and you specify job number 5, then jobs 5 through 10 will be submitted as a result of the STRGRPJS command. If you want to process the entire group, specify the name of the job that has sequence number 1. You can specify the time and parameter data associated with the group. The sequence 1 job can be started even if it is in a held status, but any job with a sequence number greater than 1 cannot be started if the job is in a held status.

The sequence 1 job of a group will be the only one that uses the features for scheduling the group. All other jobs will have a schedule code of \*NONE and will assume the scheduling code of the sequence 1 job. For instance, you could have a group called DAILY that runs Monday through Friday and have the last five jobs in the group only run on Friday (\*FRI) because they deal with the weekly process.

Any subordinate job (sequence greater than 1) will be bypassed if the job's status is held (\*HELD). Holding the sequence 1 job group will hold the entire group.

**Notes:**

1. While a sequence 1 job is required for a group, it could be an insignificant job (for example, send a message), and the first major job could be sequence 10. This technique could be helpful in the future when you need to insert a job into the group prior to the first major job. The new job group be sequence 5.
2. Subordinate jobs use the submission date of the starting job within the job group. This can be important in instances where a job group starts before midnight, but subordinate jobs do not start until after midnight. The subordinate jobs that started after midnight are assigned the date of the starting job, even though the subordinate jobs started on the next day.

---

## Job Local Data Area (LDA)

The job's local data area (LDA) is the stored values that will be used as the LDA of the submitted job. Parameters can be used in conjunction with manually keyed information. When adding a job, the current LDA for the interactive session can be retrieved for use when the job is submitted.

## Changing a Job's LDA

The stored values for a job's LDA can be changed by using option 9 of the Work with Jobs display. When adding a job from the Work with Jobs display, the job LDA can be added by using the F8 (Add job LDA) function key.

---

## Capturing Job Information

Capturing job information to allow application software to run automatically in Job Scheduler requires special handling because parameters or values used in the job are difficult to obtain and analyze. By processing a single command you can receive help from Job Scheduler in capturing job information about jobs that are normally submitted immediately through an application software package.

To begin capturing application software job information process the following command:

**STRJS \*CAPTURE**

As part of the STRJS command process, Job Scheduler places the Job Scheduler submit job command (SBMJOB) ahead of the IBM SBMJOB command by placing the QUSRIJS library at the top of the library list. In this way, when you submit a job, the attributes of the job are placed in the Add Job using Job Scheduler (ADDJOBJS) command.

**Note:** This procedure will not work if the application software package qualifies the SBMJOB command.

When you submit a job for which you have captured job information, the ADDJOBJS command is prompted and you can name the job and tailor it for your specific requirements. Once the job has been added, the Change Job LDA display is shown and the F10=Current LDA function key can be used to capture the current LDA information.

Now each time Job Scheduler runs, the job will use the captured job information from the application software.

To end capturing application software job information process the following command:

```
ENDJS *CAPTURE
```

The End Job Scheduler (ENDJS) command removes the QUSRIJS library from the user library list.

---

## Commonly Asked Questions

Following are some commonly asked questions about how to do certain functions with Job Scheduler, ranging from simple to complex job scheduling requirements.

### **How do I schedule a job to run every other week?**

Let's say today is 02/01/94 (expressed in mm/dd/yy format) and we want to schedule a job to start on Monday, February 7, 1994, and to run every other Monday. One way would be to use the \*NUMDAY schedule code and specify 14 as the Interval. You would also need to specify 02/07/94 as the starting date.

Another way would be to create a calendar of all the Monday dates that you want this job to run. The \*CALENDAR schedule code would be used and the user-defined name of the calendar that was created would be assigned to the job.

### **How do I schedule a job to run on the first day of each month?**

Use the \*DAY schedule code and a 1 for the Day of the month field and \*YES in the Working days field.

### **How do I schedule a job to run on the first working day of each month?**

Use the \*DAY schedule code and a 1 for the Day of the month field.

### **How do I schedule a job the 5th, 16th and 27th day of each fiscal period?**

Use the \*DAY schedule code and 5, 16, and 27 in the Day of the month field. The fiscal calendar and the periods would be specified in a fiscal calendar that you set up.

### **How do I schedule a job the last working day of each fiscal quarter?**

Specify the fiscal calendar and the days for the fiscal periods 3, 6, 9 and 12 using the Work with Fiscal Calendars display. Use the \*LASTWRK schedule code for the job that you are scheduling.

### **How do I schedule a job to run every 30 minutes between 8:00 a.m. and 5:00 p.m.?**

Use the \*MINUTES schedule code and specify 30 in the Interval field. You will also need to specify 0800 as the starting time and 1700 as the ending time.

### **How do I schedule a job to run on a remote system?**

The system name of the system on which you want to run the job should be specified in the *Remote location name* field when the job is added.

### **How do I schedule a job to run once?**

The \*ONCE schedule code should be used. If you want this job to run again in the future, you should specify \*YES in the Save field to save the job after the job runs. If \*NO is specified in the Save field, the job is removed after it completes processing. If \*YES is specified, the job status is changed to \*SAVED and will not run again until released/reset. If the Single date field is left blank, the job will run at the next scheduled time.

### **How do I omit the next scheduled run of a job?**

The scheduled run for a job can be omitted using option 17 of the Work with Jobs display. Each time the option 17 is processed, the current scheduled date for the job is omitted. Option 6 (Reset) from the Work with Jobs display can be used to reschedule the job if necessary.

### **How do I notify the operator when a job has not run?**

This example is for a job that is not scheduled but is triggered from an event and started using the STRGRPJS (Start Group using Job Scheduler) command. An event that could trigger the job is a job running on another system or another job running on the local system. This job normally is triggered to process between 2:00 and 4:00 p.m. every Wednesday and we will refer to it as ABC. ABC uses a schedule code of \*ONCE and is in held status. The trigger (the event that starts the job) will start this job immediately and at completion the \*ONCE schedule code will put the job in \*SAVED status, which means it will not run automatically. We want to notify the operator if ABC does not run by 4:00 p.m. One way to do this is to set up a job we will call NOTIFY that is scheduled to run every Wednesday at 4:00 p.m. The purpose of this job is to send a message to the operator that ABC has not run.

You must call a program (see example "How do I automatically omit the next run of a job") to omit the next run of the NOTIFY job as the first step to process in the ABC job. This will cause the NOTIFY job to not run until next week unless the ABC job completes successfully and omits it again until the following week.

### **How do I automatically change the parameter data for a parameter that should always contain the first day of the month?**

Use BEGDATE as the parameter that needs to be changed. We would set up a job to run on the first day of every month by using \*DAY as the schedule code and a 1 for the day of the month. The command to process for the job would be as follows:

```
CHGDTAJS PARM(BEGDATE) PARMDATA('&QYMD')
```

The QYMD parameter specified within this command will be converted to the current date in year month day format. Now all jobs that use the BEGDATE parameter will receive the first day of the month in year month day format.

### **How do I automatically change the parameter data for a parameter that should always contain the last day of the previous month?**

Use PRVDATE as the parameter that needs to be changed. We would set up a job to run on the first day of every month by using \*DAY as the schedule code and a 1 for the day of the month. The command to process for the job would be as follows:

```
CHGDTAJS PARM(PRVDATE) PARMDATA('&PYMD')
```

The PYMD parameter specified within this command will be converted to the previous date in year month day format. Now all jobs that use the PRVDATE parameter will receive the last day of the previous month in year month day format.

#### **How do I run a job if a job ends abnormally?**

Jobs that run due to the abnormal end of a scheduled job are known as an alternate job. Alternate jobs are set up on the second page of the Add Job display when you are adding a job. The alternate must exist before it can be referred to as an alternate job. An alternate job cannot have an alternate job. The alternate job could page the operator, send a message to QSYSOPR, copy files from QTEMP, and so on.

#### **How do I specify not to run a job after an IPL even though it was scheduled to run during the time the system was down?**

You specify the keyword \*NOSBM in the *Recovery action* field on the second page of the Add Job display.

#### **How do I specify not to run a job after December 31, 1994?**

You should specify 12/31/94 (expressed in mm/dd/yy format) in the *Ending date* field which is found on the second page of the Add Job display.

#### **How do I set up the fourth of July of every year as a holiday and the next working day as the alternate run date?**

You should create a holiday calendar and add an entry of 07/04 as the holiday date and \*NEXTWRK as the run date. If the holiday date does not contain a year, the system assumes that day of every year is a holiday. The run date can contain a specific date, \*NEXTWRK (next working day), \*PREVWRK (previous working day), or \*NONE (do not run on this date).

#### **How do I distribute reports for Job Scheduler jobs?**

You should specify a report distribution ID on the second page of the Add Job display. When the job runs, it will list all spooled files produced by the job and determine which ones to distribute and the recipients to receive the spooled file copy.

#### **How do I distribute reports for a non-Job Scheduler job?**

Spooled files can be distributed for a specified job through the Send Reports using Job Scheduler (SNDRPTJS) command. This command can be processed on any command line or accessed through option 1 of the Report Distribution menu. This command can be used outside of Job Scheduler in a user's control language program for distributing reports specified in the report distribution ID to the specified users (recipients).

#### **How do I pass numeric parameters to a program?**

This example deals with passing a six digit number (123456) to a program expecting the parameter to be numeric.

```
CALL EXC100 PARM(X'0123456F')
```

In this example the number is represented in hex and the F is the signed bit. The extra zero at the beginning of the number is needed to make the hex representation an even number of bits.

### **How do I schedule monthly processing on the last Friday of the month to run after the weekly processing?**

For this example there will be a group called EOW with 5 jobs that make up the weekly processing and a group called EOM with 3 jobs that make up the monthly processing. The EOW group is scheduled to run every Friday at 10:00 p.m. The EOM group is a dependent job and will have a schedule code of \*DEPJOB.

When setting up the job dependencies, the last job (LAST1) in the EOW group will be the predecessor to the first job (FIRST1) in the EOM group. If this is the only dependency then the EOM group would run every Friday instead of just the last Friday of the month. We will also set up a job called EOMCHECK that will have a schedule code \*LAST and we will specify \*FRI as the day of the week. The EOMCHECK will run on the last Friday of every month sometime before the EOW group. Now set up a job dependency where the EOMCHECK job is predecessor to the first job in the EOM group.

The way job dependencies work is that the successor job(s) will only start after the predecessor process flags have been changed to \*YES (completed processing). The process flag is changed to \*YES after the job has completed. The command in the EOMCHECK job will be as follows:

```
SETDEPJS PREDJOB(LAST1 EOW 40) SUCCJOB(FIRST1 EOM 1) +
```

```
COMPLETE(*NO)
```

The processing of this command will change the process flag for the EOW to EOM dependency to \*NO. The process flag for the EOW to EOM dependency will always be \*YES because it runs every Friday, so if the EOMCHECK did not change the process flag to \*NO for the EOW to EOM dependency, then both process flags would be \*YES and the EOM group would start. Now when the last job in the EOW group is finished on the last Friday night of the month, the EOW group will start.

Another way would be to schedule the EOM group some time after 10:00 p.m. using the \*LAST schedule code and specifying \*FRI as the day of the week. Set up active dependencies for the first job in the EOM group of all the jobs in the EOW group. This will not allow the EOM group to start if any of the EOW group jobs are active or on the job queue. Active dependencies can be set up through option 21 of the Work with Jobs display.

### **How do I run System/36 procedures?**

The Start System/36 Procedure (STRS36PRC) command is used to run a System/36 procedure. An example is:

```
STRS36PRC PRC(PAYPROC)
```

```
STRS36PRC PRC(ENDDAY) CURLIB(ORDLIB) PARM('010194')
```

When running System/36 procedures, the Job Scheduler completion code must be set by inserting a Job Scheduler program at the end of each procedure processed by Job Scheduler. This program is necessary to communicate successful versus unsuccessful System/36 job completions to Job Scheduler for proper historical reporting and alternate job processing.

Each individual procedure run under Job Scheduler must contain the program QIJSCS36 as the last statement in the procedure.

The following is an example of a single procedure, NIGHTLY1 which runs all nightly reports:

```
NIGHTLY1  
.  
.  
.  
.  
CALL QIJS/QIJSCS36 PARM(*YES)
```

If a System/36 procedure is run as a procedure within another procedure, each individual procedure must be followed by a call to QIJSCS36 program as follows:

```
WEEKLY  
(RUN NIGHTLY REPORTS AND BACKUPS PLUS ALL WEEKLY REPORTS)  
.  
.  
NIGHTLY1  
CALL QIJS/QIJSCS36 PARM(*NO) <====resets individual procedure  
completion for processing  
remaining procedures  
.  
.  
NIGHTLY2  
CALL QIJS/QIJSCS36 PARM(*NO) <====resets individual procedure  
completion for processing  
remaining procedures  
.  
.  
WEEKLY1 <====no QIJSCS36 necessary since not run as  
a single procedure elsewhere  
.  
.  
WEEKLY2  
CALL QIJS/QIJSCS36 PARM(*YES) <====signals successful completion
```

### **How do I find the percent of completion for a submitted job?**

The percent of completion for a submitted job is displayed using the Display Job using Job Scheduler (DSPJOBJS) command or option 5 from the Work with Jobs display for the specified job. The job must be in \*PROCESS status.

### **How do I automatically omit the next run of a job?**

You can automate the omission of a job that is scheduled to run by processing the following control language procedure from within a user program or from a Job Scheduler job. This program (QIJSCON) is included in the QIJS library.



ending the monitor, you can then change the system date and time. When you re-start the monitor using the STRJS OPTION(\*MONITOR) command, you will be given the opportunity to review the job schedule prior to re-starting the monitor. See "Starting the Job Monitor" on page 4-2 for an example of starting and stopping the job monitor.

If you change the system date and time to a time or date in the future and do not end the monitor, jobs that are now scheduled in the past will run immediately the next time the monitor starts. It is up to you to review the schedule prior to changing the system date and time to prevent jobs from running immediately. If you change the system date and time to a time or date in the past, you should review each of the scheduled times and dates to see if you want to reschedule the jobs based on the new system date and time.

### **How does Job Scheduler determine that a job ends abnormally?**

The job will end abnormally when a request in the command list sends the request processing program an escape message with a severity equal to or greater than the end severity of the job. The end severity of a job is defined in the job description assigned to the job.

### **Can Job Scheduler monitor for user defined messages?**

The request processing program can monitor user defined messages that begin with USR.

### **Why are my job's error messages being replied to automatically?**

In order to provide a more automated environment, the Job Scheduler product is initially built with \*DFT as the Inquiry Message Reply. All jobs submitted with \*DFT as the Inquiry Message Reply will have the error messages replied to automatically. This can be changed at the system level through Option 1 of the Job Controls menu or at each job level.

### **How do I copy a group?**

You can use the Copy Job using Job Scheduler (CPYJOBJS) command to copy a job group to another job group. When you copy a group you must copy all jobs and sequence numbers from the original group to the new group; otherwise, you receive an error message.

An example of copying a group is as follows:

```
CPYJOBJS FROMJOB(*ALL GROUP1 *ALL) TOJOB(*SAME GROUP2)
```

where: GROUP1 is the original group and  
GROUP2 is the new group that you are creating.

You can verify that the group copied properly by going to the Work with Jobs display and pressing F15 (Sort) until the jobs are sorted by group.

### **How do I copy a single job to another system?**

You can use the Copy Job using Job Scheduler (CPYJOBJS) command to copy a single job to another system as follows:

```
CPYJOBJS FROMJOB(JOBA) TOJOB(*RMTLOCNAME) RMTLOCNAME(SYSTEMB) ACTION(*COPY)
```

where: JOBA is the job that you are copying,  
\*RMTLOCNAME indicates that you are copying the job to the  
system specified in the RMTLOCNAME parameter,  
and SYSTEMB is the system to which you are copying JOBA.

**Note:** You can add or replace various values by using the ITMOPT parameter on the CPYJOBJS command.

### **How do I copy all jobs for an application to another system?**

You can use the Copy Job using Job Scheduler (CPYJOBJS) command to copy all jobs for an application to another system as follows:

```
CPYJOBJS FROMJOB(*ALL) TOJOB(*RMTLOCNAME) RMTLOCNAME(SYSTEMB)  
APP(WESTDIV) ACTION(*COPY)
```

where: \*ALL indicates you are copying all jobs,  
\*RMTLOCNAME indicates that you are copying the job to the  
system specified in the RMTLOCNAME parameter,  
WESTDIV is the name of the application that you are copying,  
and SYSTEMB is the system to which you are copying all jobs in WESTDIV.



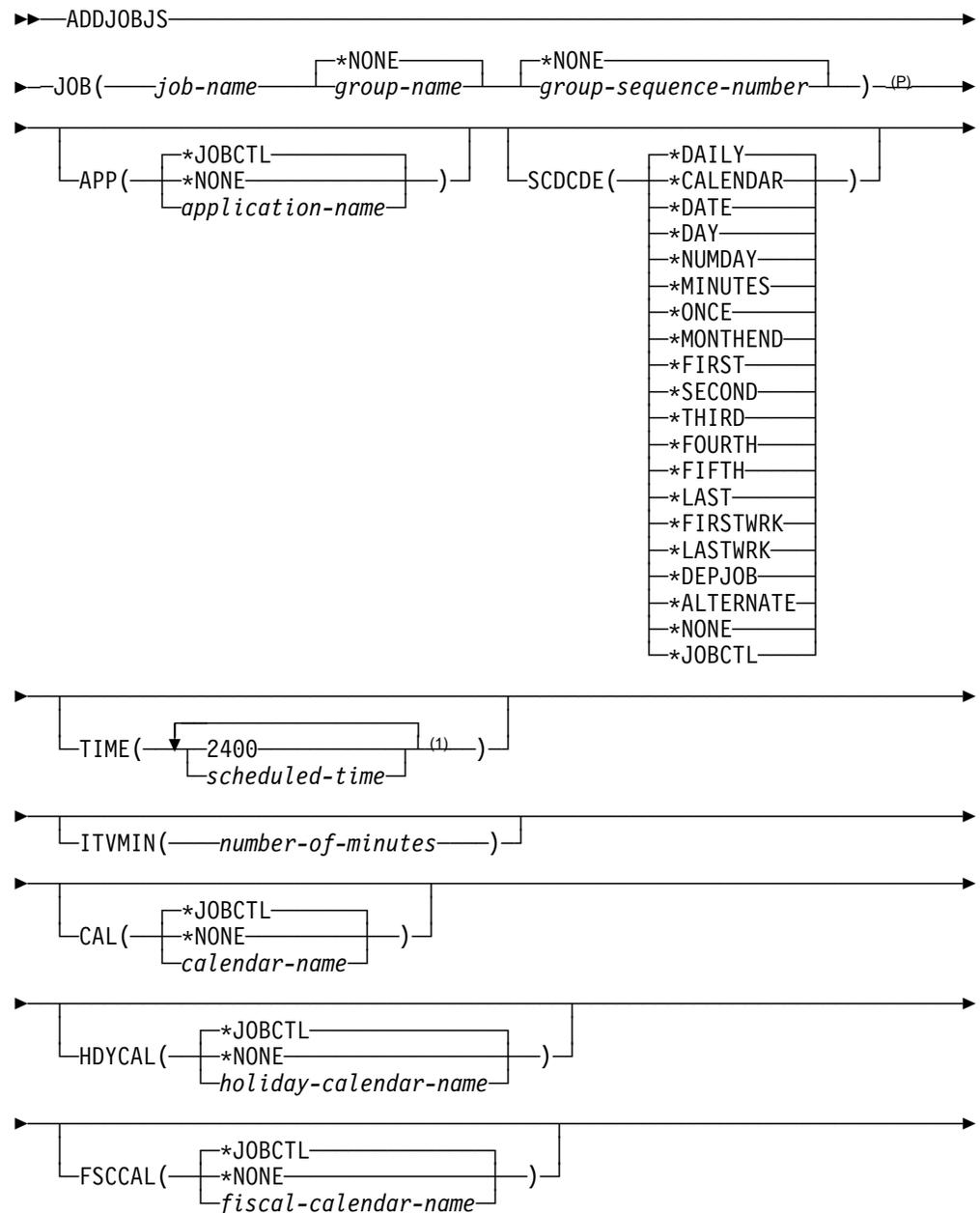
## Appendix A. User Commands

This appendix contains all the commands that are available in Job Scheduler. The commands are arranged in alphabetic order by command name.

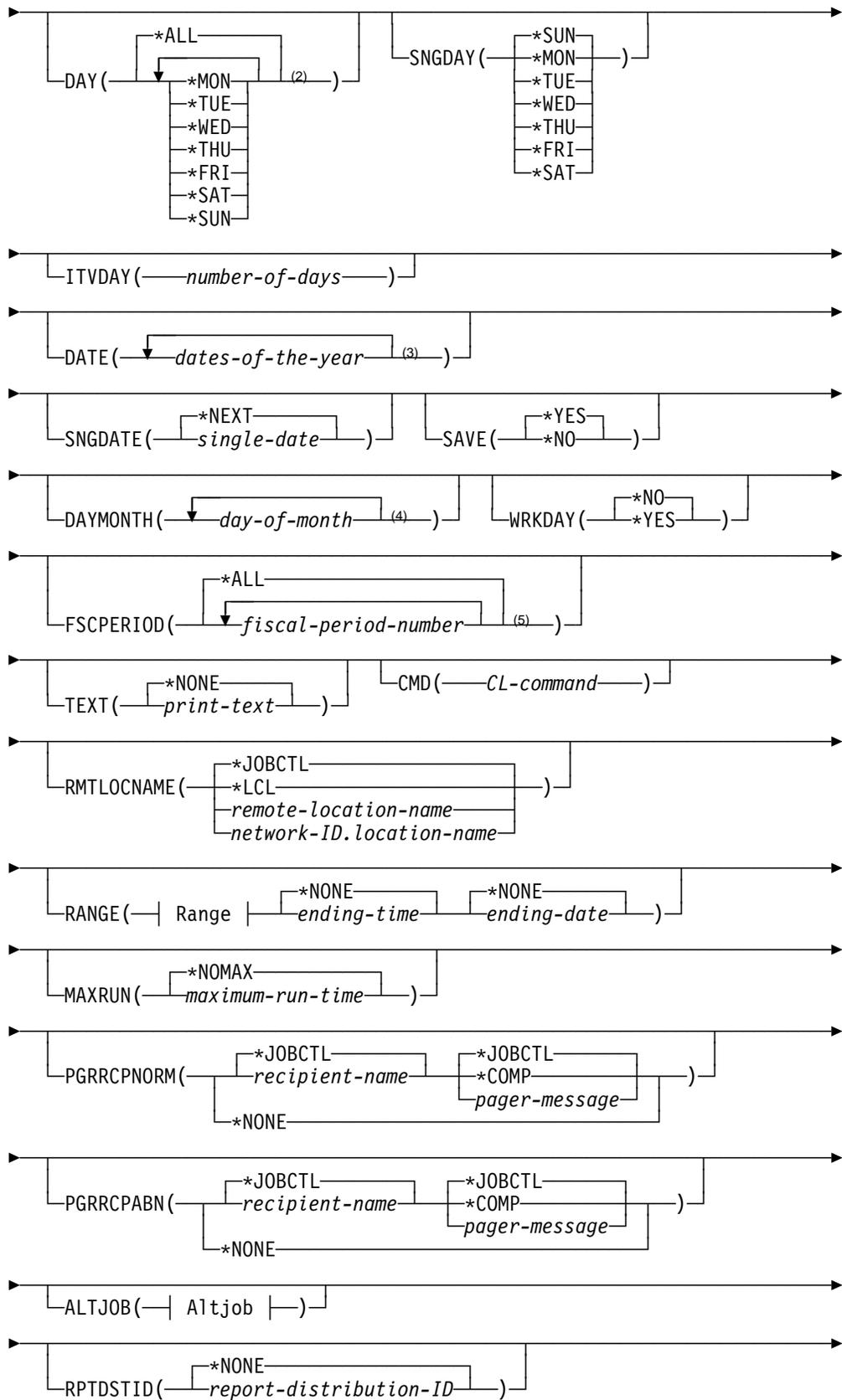
### ADDJOBJS (Add Job using Job Scheduler) Command

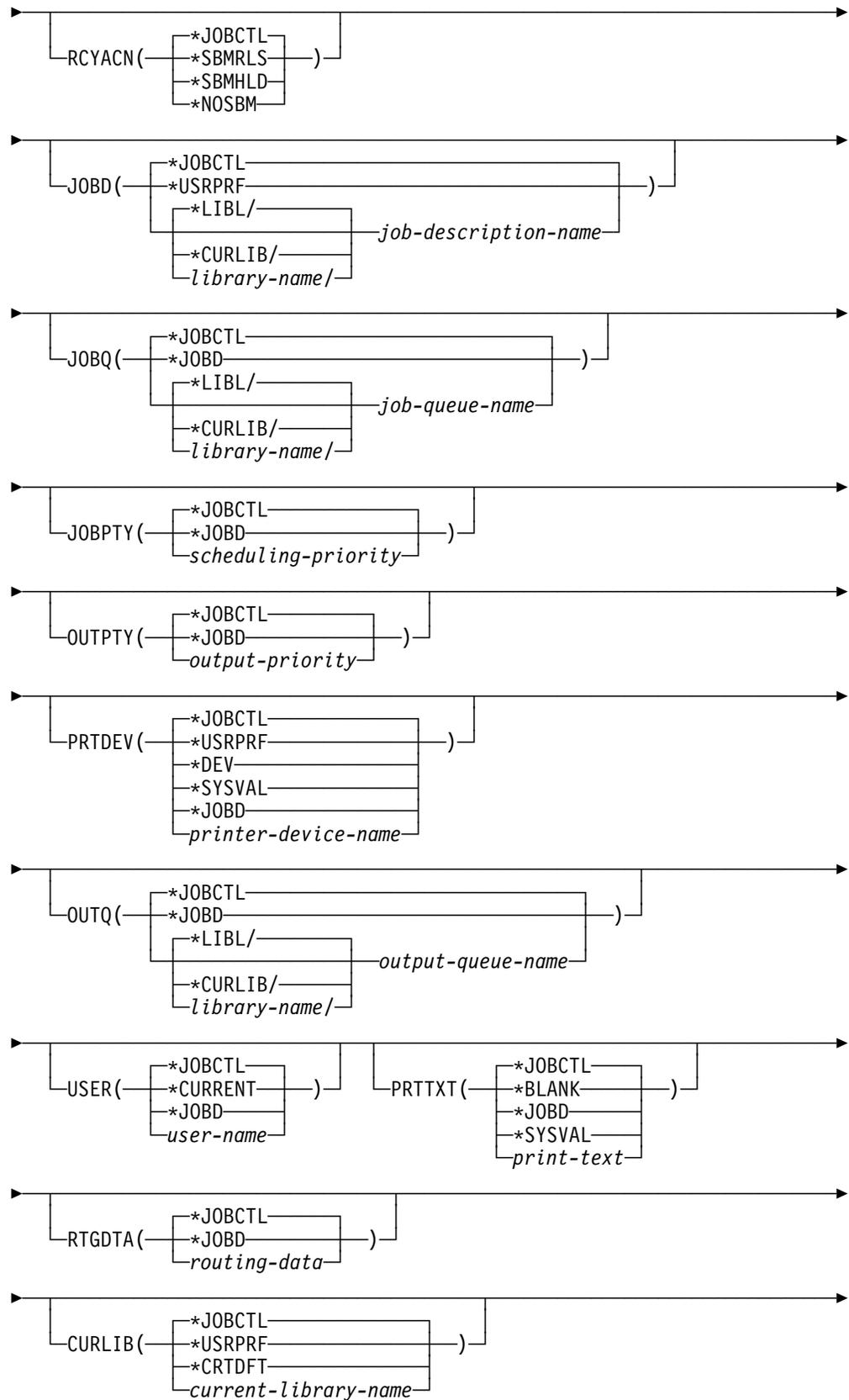
#### Format

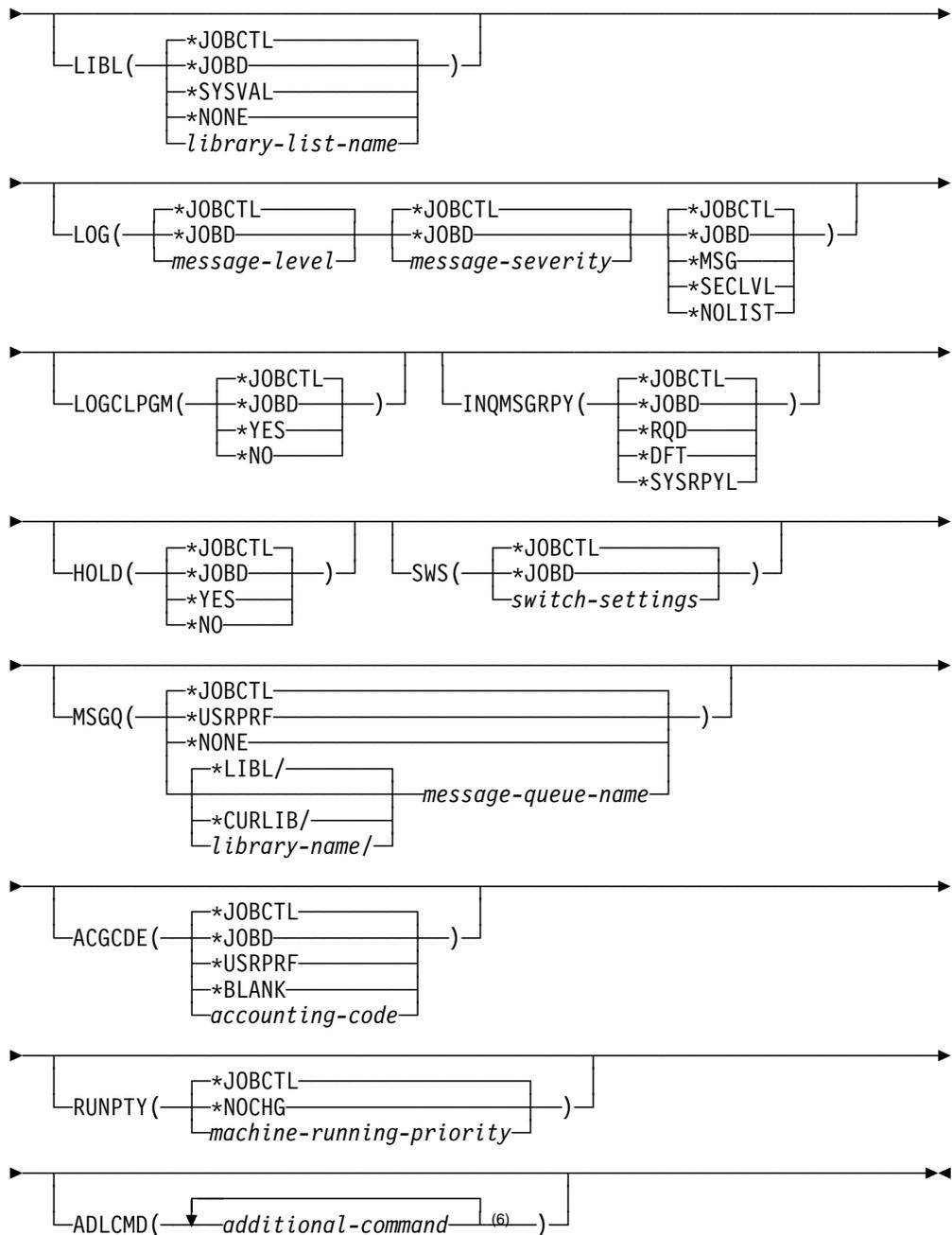
Job: B,I Pgm: B,I REXX: B,I Exec



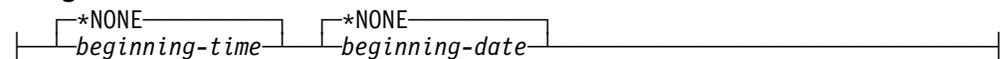
# ADDJOBJS







**Range:**



**Altjob:**



**Notes:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

- 1 A maximum of 10 repetitions.
- 2 A maximum of 7 repetitions.
- 3 A maximum of 13 repetitions.
- 4 A maximum of 13 repetitions.

<sup>5</sup> A maximum of 13 repetitions.

<sup>6</sup> A maximum of 4 repetitions.

## Purpose

The Add Job using Job Scheduler (ADDJOBJS) command allows you to schedule batch jobs by adding an entry to the job schedule.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

Jobs can be a single job or a member of a group of jobs or an application. You can use this command to schedule a batch job to be submitted once, at a regular interval and so on, based on the schedule code you specify. You can schedule jobs with user-defined calendars, holiday exception calendars and fiscal year calendars.

You can use calendars in conjunction with all schedule codes except \*NONE, \*ALTERNATE, and \*NUMDAY to modify when scheduled jobs run.

The job schedule entry contains all of the information needed to submit the job, including the commands to process, the job description and user profile under which the job is run, the job queue to which the job is submitted, the message queue to which messages are sent and so on.

At the date and time you specify or Job Scheduler calculates, the job is submitted to the specified job queue. This command does not guarantee that the job will begin running at the scheduled time, however. The job will not begin running if the job queue is held or attached to an inactive subsystem, or if the maximum number of active jobs allowed to run in the subsystem or on the system at one time has been reached.

Each job schedule entry is identified by a user-defined job, which is specified on the JOB parameter of this command.

### Restrictions:

1. The user must have use authority to the job description and the user profile.
2. The user must have use and add authorities to the message queue and the output queue.
3. The user must have read authority to the job queue and to all libraries associated with the specified objects. CHGJOBJS, SBMJOBJS
4. The user must have use authority to the \*ADDJOB function.

## Examples

### Example 1: Adding a Job

```
ADDJOBJS JOB(JOB01) TIME(1000)
```

This command adds a job to the job schedule. In this example, job JOB01 is being added to the job schedule and is scheduled to run at 10:00 a.m.. Note that the default schedule code for this job is \*DAILY and the DAY parameter is \*ALL.

### Example 2: Adding a Job with a \*CALENDAR schedule code

# CHGAUTJS

```
ADDJOBJS JOB(JOB02) SCDCDE(*CALENDAR) CAL(CAL) TIME(1100) CMD(WRKACTJOB)
```

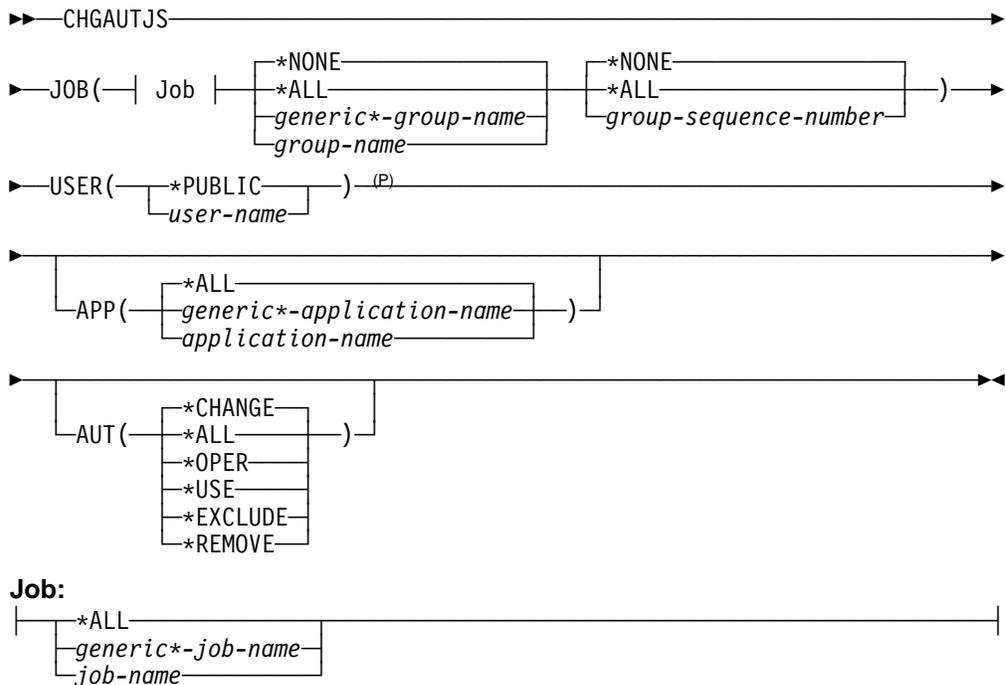
This command adds the job JOB02 to the job scheduler. The job is scheduled to run at 11:00 a.m. using an \*CALENDAR schedule and a calendar called CAL. When the job runs it processes the WRKACTJOB command.

---

## CHGAUTJS (Change Job Authority using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

### Purpose

The Change Job Authority using Job Scheduler (CHGAUTJS) command allows you to change the job authority that you have set up for Job Scheduler jobs.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

You can select specific jobs, generic jobs or all jobs as well as group and application whose authority you want to change.

After you select the parameters in the change command and press Enter, the authority that you have specified for the jobs are changed.

## Examples

### Example 1: Changing Authority for a Job

```
CHGAUTJS JOB(JOB02) USER(SAM) AUT(*USE)
```

In this example, job JOB02 is changed to allow \*USE authority which provides screen display authority to user SAM.

---

## CHGDTAJS (Change Parameter Data) Command

### Format

Job: B, I Pgm: B, I REXX: B, I Exec

```

▶▶ CHGDTAJS PARM(parameter-name)(K)
▶▶ PARMDATA(parameter-data)(P)

```

#### Notes:

<sup>K</sup> All parameters preceding this point are key parameters.

<sup>P</sup> All parameters preceding this point can be specified positionally.

### Purpose

The Change Parameter Data (CHGDTAJS) command allows you to change parameter data for the parameter that you specify.

## Examples

### Example 1: Changing Parameter Data

```
CHGDTAJS PARM(FRDATE) PARMDATA('12/01/94')
```

In this example the parameter FRDATE is changed to be 12/01/94. The date format in PARMDATA is mm/dd/yy for this example.

---

## CHGJOBJS (Change Job using Job Scheduler) Command

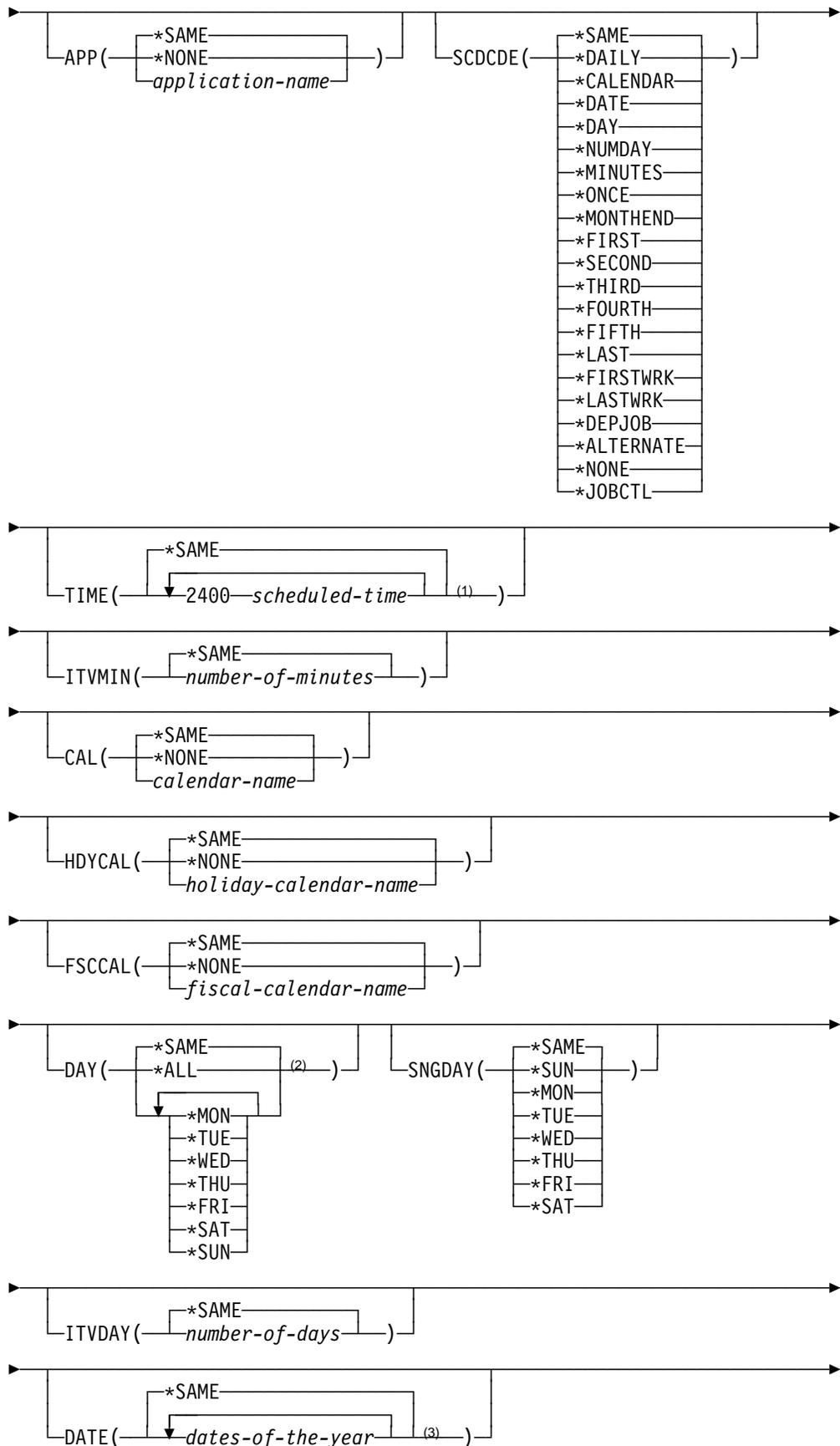
### Format

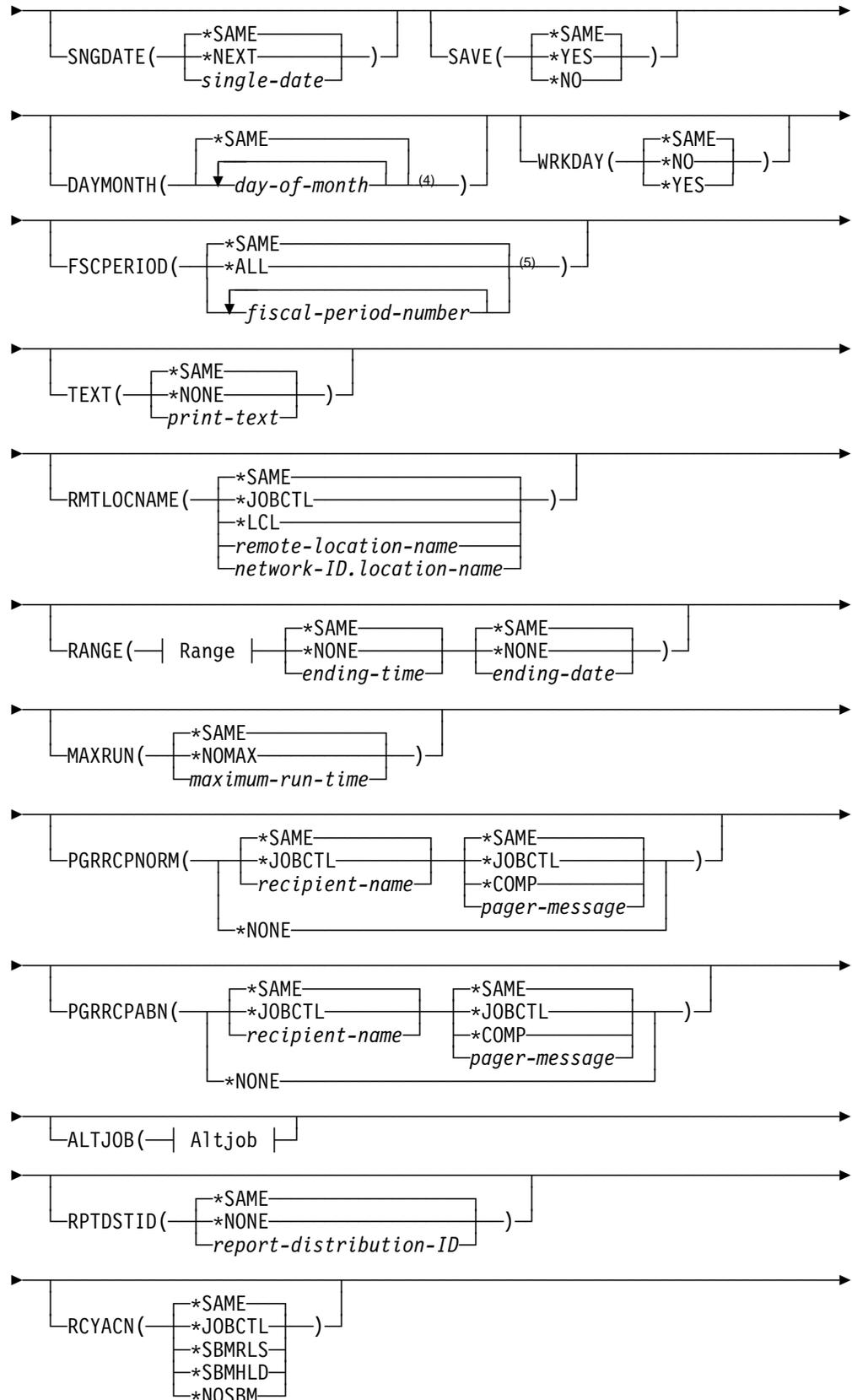
Job: B, I Pgm: B, I REXX: B, I Exec

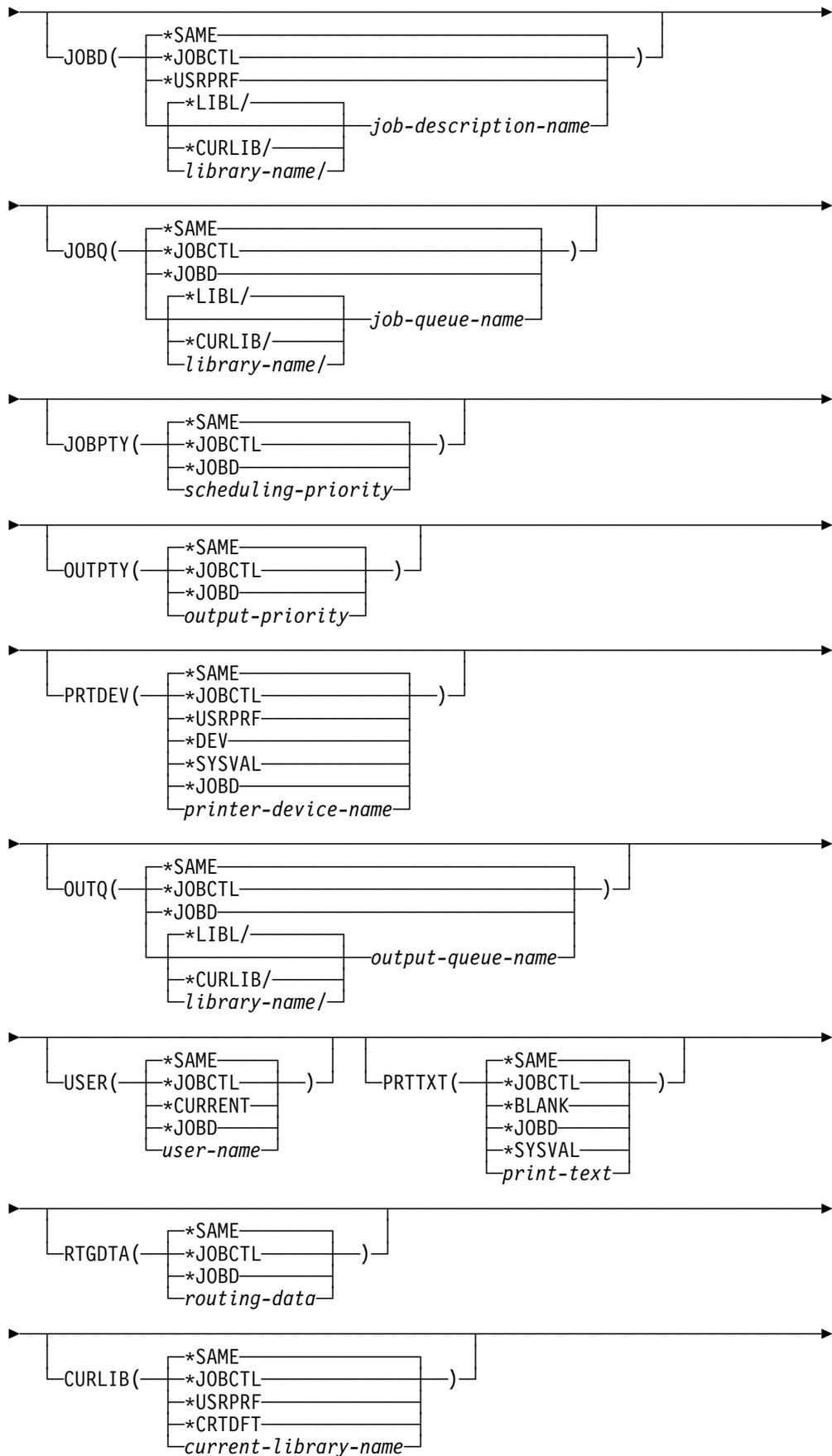
```

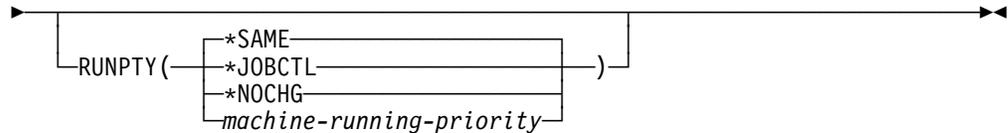
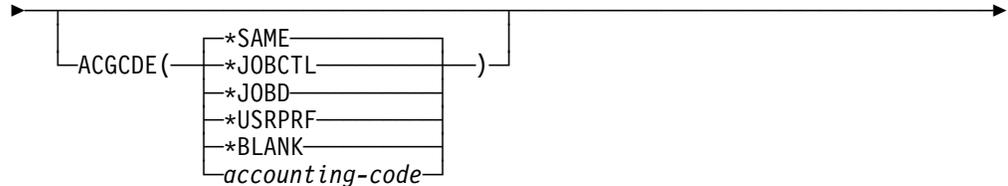
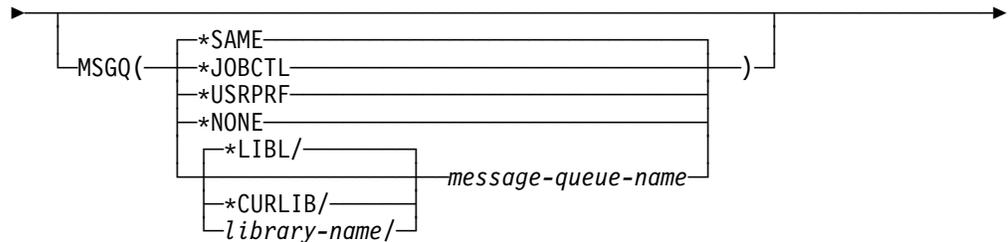
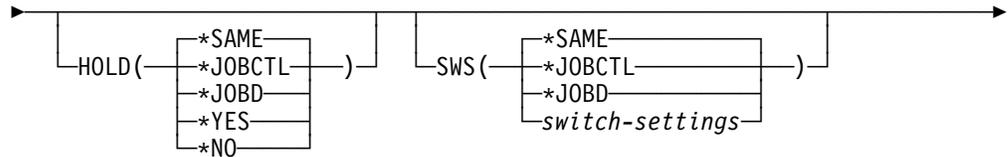
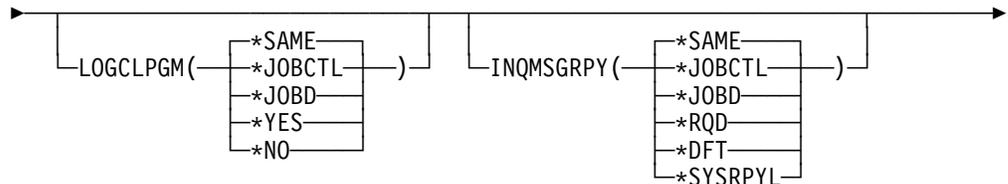
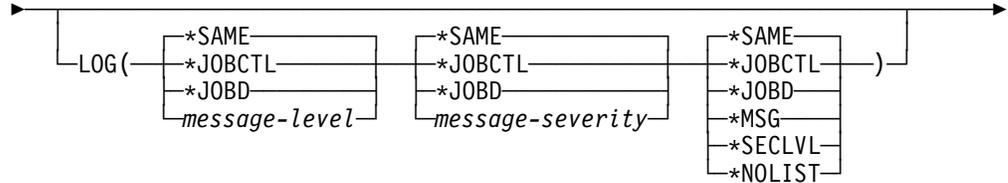
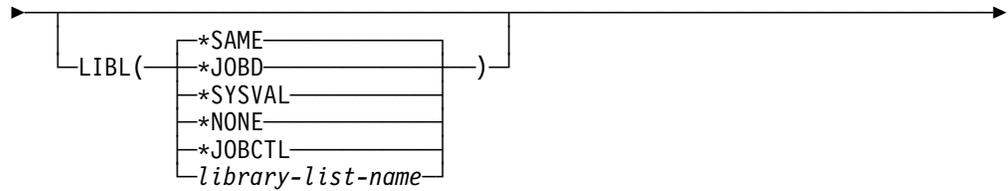
▶▶ CHGJOBJS
▶▶ JOB(job-name group-name group-sequence-number)(P, K)

```

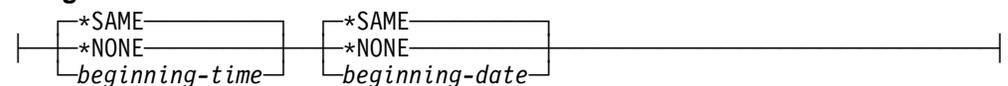




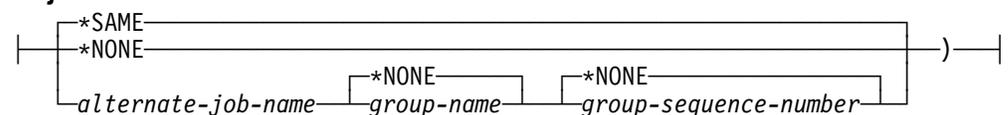




**Range:**



**Altjob:**



**Notes:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

- <sup>K</sup> All parameters preceding this point are key parameters.
- <sup>1</sup> A maximum of 10 repetitions.
- <sup>2</sup> A maximum of 7 repetitions.
- <sup>3</sup> A maximum of 13 repetitions.
- <sup>4</sup> A maximum of 13 repetitions.
- <sup>5</sup> A maximum of 13 repetitions.

## Purpose

The Change Job Job Scheduler (CHGJOBJS) command allows you to change a job in the job schedule.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

Jobs can be a single job or a member of a group of jobs or an application. You can use this command to change the schedule of a batch job to be submitted once and so on, based on the schedule code you specify. You can schedule jobs with user-defined calendars, holiday exception calendars and fiscal year calendars.

Calendars can be used in conjunction with all schedule codes except \*NONE, \*ALTERNATE, and \*NUMDAY.

The job schedule entry contains all of the information needed to submit the job, including the commands to process, the job description and user profile under which the job is run, the job queue to which the job is submitted, the message queue to which messages are sent and so on.

At the date and time you specify or Job Scheduler calculates, the job is submitted to the specified job queue. This command does not guarantee that the job will begin running at the scheduled time, however. The job will not begin running if the job queue is held or attached to an inactive subsystem, or if the maximum number of active jobs allowed to run in the subsystem or on the system at one time has been reached.

Each job schedule entry is identified by a user-defined job, which is specified on the JOB parameter of this command.

### Restrictions:

1. The user must have use authority to the job description and the user profile.
2. The user must have use and add authorities to the message queue and the output queue.
3. The user must have read authority to the job queue and to all libraries associated with the specified objects. CHGJOBJS, SBMJOBJS
4. The user must have use authority to the \*ADDJOB function.

## Examples

### Example 1: Changing a Job

```
CHGJOBJS JOB(JOB02) APP(ACCTG) SDCDE(*DAILY) FSCPERIOD(*ALL) TEXT('Change to JOB02')
```

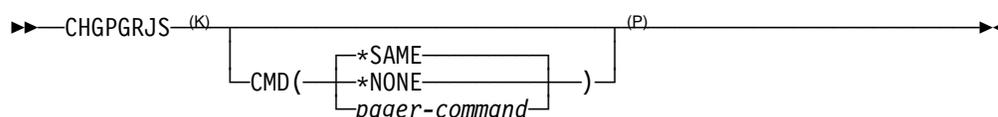
In this example JOB02 is changed. Its application is changed to the accounting application, it is changed to run according to schedule code \*DAILY for all fiscal periods.

---

## CHGPGRJS (Change Pager Command using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



#### Notes:

- <sup>K</sup> All parameters preceding this point are key parameters.
- <sup>P</sup> All parameters preceding this point can be specified positionally.

### Purpose

The Change Pager Command using Job Scheduler (CHGPGRJS) command allows you to specify the command to use from your paging software to send a pager message. The command you specify here is used by the ADDJOBJS, CHGJOBJS and SBMJOBJS commands to send pages for normal and abnormal job completion respectively. The values you specify in the PGRRCPNORM and PGRRCPABN parameters become the substitution values that are used in the CHGPGRJS command. The two substitution variables are &RCP (recipient) and &MSGTXT (message).

## Examples

### Example 1: Specifying a PagerPac Command

```
CHGPGRJS CMD('SNDMNAMSG TOUSER(&RCP) + MSG(''&MSGTXT'')')
```

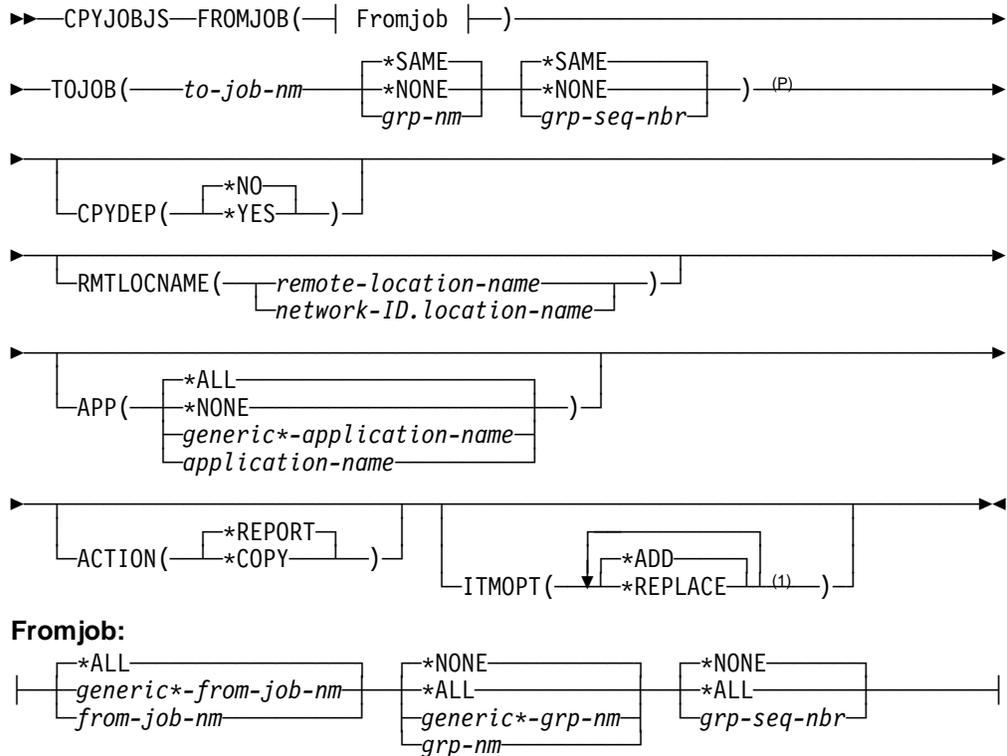
In this example the Send MNA Message (SNDMNAMSG) command is used to send pager messages to recipients as a result of normal or abnormal job completions. The values for variables &RCP (recipient) and &MSGTXT (message) are specified in the PGRRCPNORM and PGRRCPABN parameters and are the replacement values used in the CHGPGRJS command. You should enter paired quotes around the &MSGTXT variable.

---

## CPYJOBJS (Copy Job using Job Scheduler) Command

## Format

Job: B,I Pgm: B,I REXX: B,I Exec



### Notes:

<sup>P</sup> All parameters preceding this point can be specified positionally.

<sup>1</sup> \*ADD or \*REPLACE can be specified for each parameter element of ITMOPT.

## Purpose

The Copy Job using Job Scheduler (CPYJOBJS) command allows you to copy one job and all its parameters to create a new job. After creating the new job, you can change any or all of the associated parameters.

## Examples

### Example 1: Copying a Job to a New Job

```
CPYJOBJS FROMJOB(JOB02) TOJOB(JOB03) CPYDEP(*YES)
```

In this example JOB02 is copied to a new job called JOB03. The job dependencies from JOB02 are copied to JOB03.

### Example 2: Copying a Group

```
CPYJOBJS FROMJOB(*ALL GROUP1 *ALL) TOJOB(*SAME GROUP2 *SAME)
```

In this example GROUP1 is copied to a new group called GROUP2. A group copy works only if \*ALL is specified in the To job and Sequence fields and \*SAME is specified in the From job and Sequence fields.

### Example 3: Copying a Single Job to Another System

```
CPYJOBJS FROMJOB(JOB02) TOJOB(*RMTLOCNAME) RMTLOCNAME(SYSTEMB) ACTION(*COPY)
```

In this example JOBA is copied to SYSTEMB, which is another system in the network.

**Example 4: Copying All Jobs for an Application to Another System**

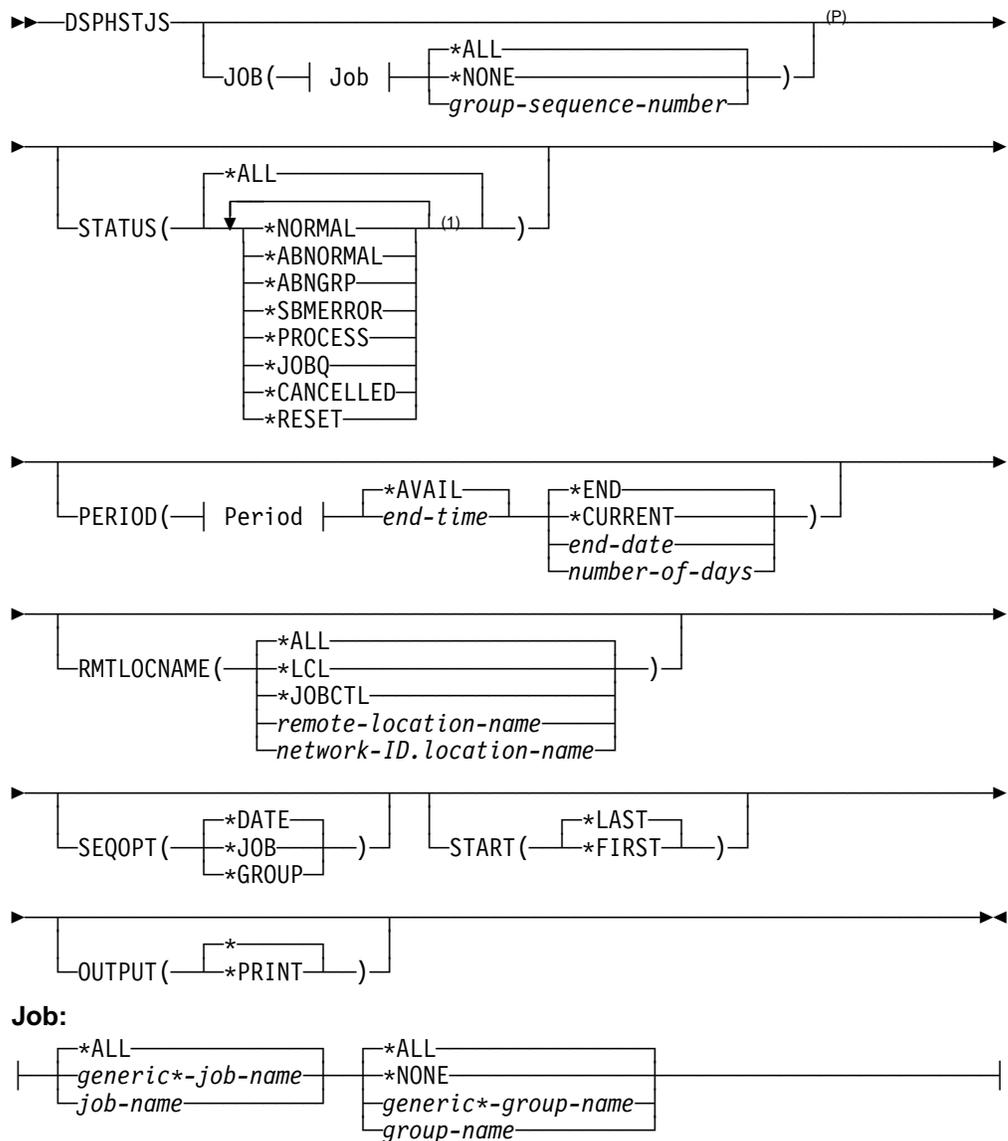
```
CPYJOBJS FROMJOB(*ALL) TOJOB(*RMTLOCNAME) RMTLOCNAME(SYSTEMB) APP(WESTDIV)
ACTION(*COPY)
```

In this example, all jobs are copied to SYSTEMB for the application, WESTDIV.

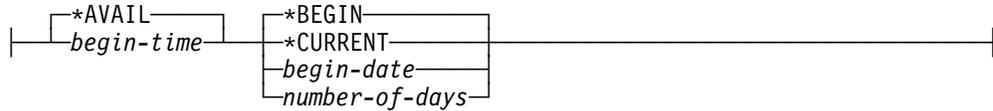
## DSPHSTJS (Display History using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



## DSPJOBJS



### Notes:

- <sup>P</sup> All parameters preceding this point can be specified positionally.
- <sup>1</sup> A maximum of 7 repetitions

## Purpose

The Display History using Job Scheduler (DSPHSTJS) command allows you to work with job completion history based on specified completion status, date ranges and sequences.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

The Display History using Job Scheduler command takes you to the Display History display, or prints a report, which shows the job information, last run information and completion status for jobs based on the parameters you have selected in the DSPHSTJS command.

## Examples

### Example 1: Displaying Job Scheduler History

```
DSPHSTJS SEQOPT(*JOB) OUTPUT(*PRINT)
```

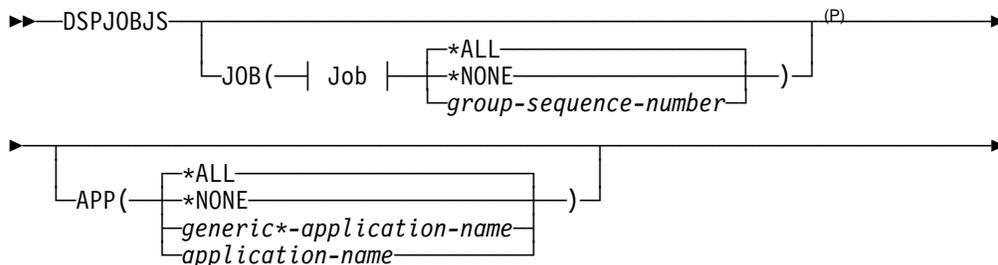
In this example the Job Scheduler History report is printed for all jobs and all groups. The report is sequenced by job.

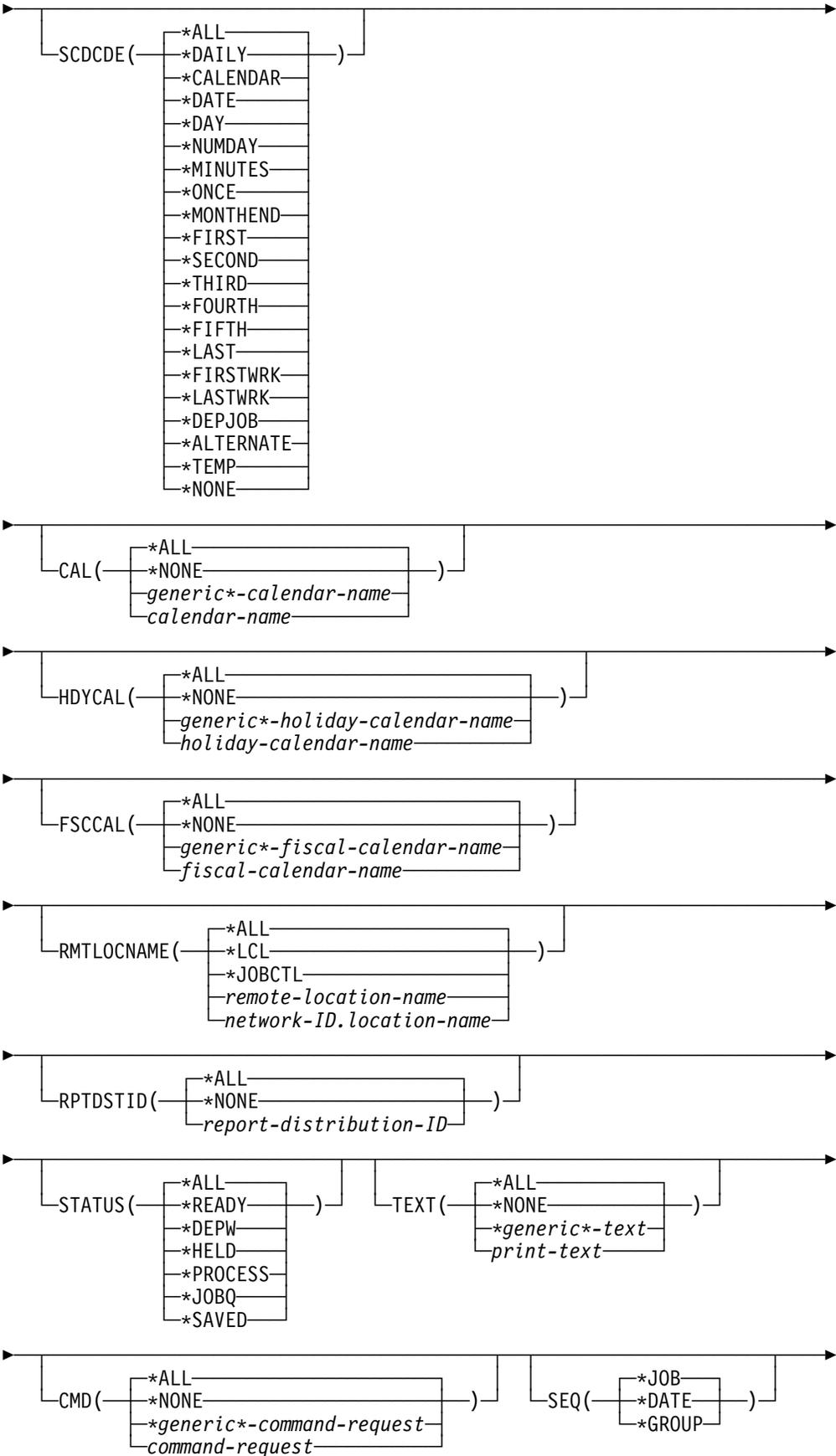
---

## DSPJOBJS (Display Job using Job Scheduler) Command

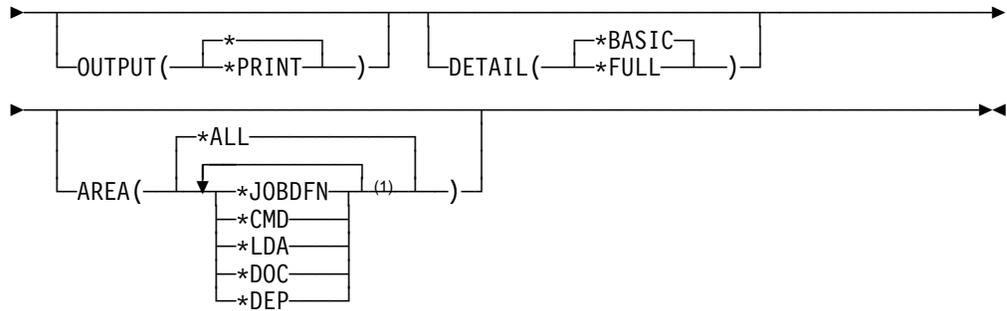
### Format

Job: B,I Pgm: B,I REXX: B,I Exec

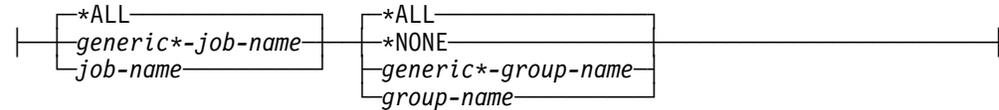




## DSPLOGJS



### Job:



### Notes:

- <sup>P</sup> All parameters preceding this point can be specified positionally.
- <sup>1</sup> A maximum of 4 repetitions

## Purpose

The Display Job using Job Scheduler (DSPJOBJS) command allows you to display a job that you select.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

You can also print a report for the job.

The Display Job using Job Scheduler (DSPJOBJS) command allows you to display or print a single job, groups of jobs or all jobs that you have set up in Job Scheduler. You can sequence the display or report by job, by date or by group.

If you select a single job to display, you are taken to the Display Job display. If you select more than one job to display, you are taken to the Display Jobs display where you can select any of the group of jobs to display individually. If you want to print information about a job or group of jobs, you can select a specific area to print or you can print all areas.

## Examples

### Example 1: Displaying a Job

```
DSPJOBJS JOB(JOB02) OUTPUT(*PRINT)
```

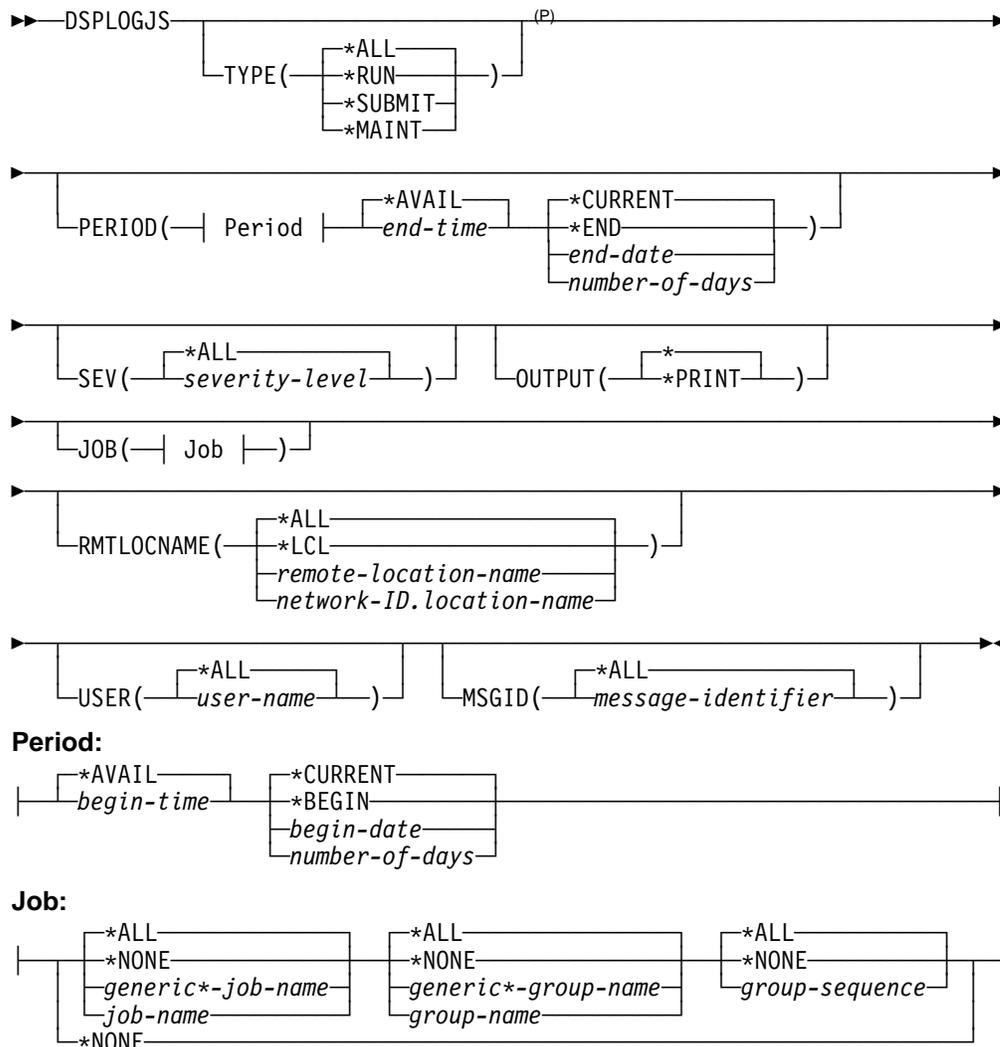
In this example, JOB02 information is printed.

---

## DSPLOGJS (Display Log for Job Scheduler) Command

## Format

Job: B,I Pgm: B,I REXX: B,I Exec



### Note:

<sup>P</sup> All parameters preceding this point can be specified positionally.

## Purpose

The Display Log for Job Scheduler (DSPLOGJS) command allows you to display the Job Scheduler log.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

The Job Scheduler log is a display by date and time of messages that Job Scheduler has created as a result of processing. The DSPLOGJS command allows you to display or print all or part of the log.



## Purpose

The Hold Job using Job Scheduler (HLDJOBJS) command allows you to hold a job that you specify.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

When you press Enter, a message is displayed confirming that the job you selected has been held. The job is held until the Release Job using Job Scheduler (RLSJOBJS) command is processed for the job or Option 6 (Release/Reset) is selected for the job on the Work with Jobs display.

## Examples

### Example 1: Holding a Job

```
HLDJOBJS JOB(JOB02)
```

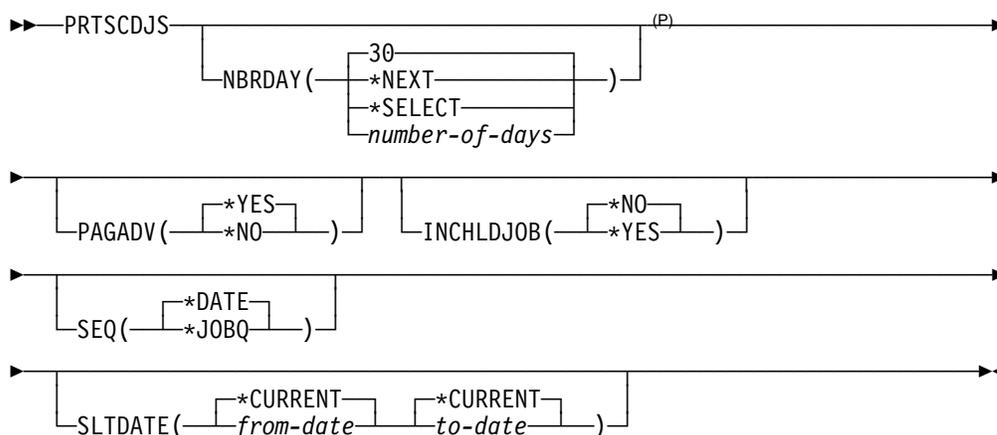
In the example, JOB02 is held.

---

## PRTSCDJS (Print Schedule using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

## Purpose

The Print Schedule using Job Scheduler (PRTSCDJS) command allows you print a report based on a number of days that you specify that forecasts what jobs are to be submitted by Job Scheduler and when. You can include or exclude jobs that have been held.

**Note:** If you use the schedule code \*MINUTES, the PRTSCDJS command can be long running.

## Examples

### Example 1: Printing a Job Schedule Report

```
PRTSCDJS NBRDAY(5) PAGEADV(*NO) INCHLDJOB(*YES)
```

In this example the Job Schedule report is printed for jobs that will run for the next 5 days. There will not be a separate page for each day and held jobs are included in the report.

## RLSJOBJS (Release Job using Job Scheduler) Command

### Format

```
▶—RLSJOBJS—▶
▶—JOB(—job-name— [ *NONE ] [ *NONE ] )—(P)▶
```

**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

### Purpose

The Release Job using Job Scheduler (RLSJOBJS) command allows you to release a job that you specify.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

When you press Enter, a message is displayed confirming that the job you selected has been released. The job is released until the Hold Job using Job Scheduler (HLDJOBJS) command is processed for the job or Option 3 (Hold) is selected for the job on the Work with Jobs display.

## Examples

### Example 1: Releasing a Job that has been Held

```
RLSJOBJS JOB(JOB02)
```

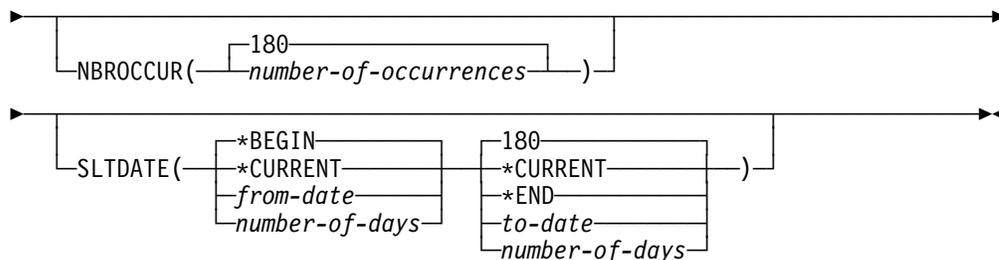
In this example JOB02 is released, having been previously held using a HLDJOBJS command.

## RMVHSTJS (Remove History using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec

```
▶—RMVHSTJS—▶
▶—RMVTYPE(— [ *OCCUR ] [ *DAYS ] )—(P)▶
```



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

**Purpose**

The Remove History using Job Scheduler (RMVHSTJS) command allows you to remove history from the Job Scheduler job history file by specifying the amount of history you want to keep or remove. You can specify whether you want to keep a number of job history occurrences or you can remove history entries based on a date range that you specify.

**Examples**

**Example 1: Removing All but 60 Days of History Information**

```
RMVHSTJS RMVTYPE(*DAYS) SLTDATE(*BEGIN 60)
```

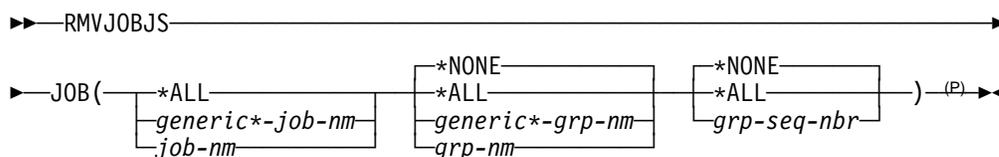
In this example, 60 days of history information is kept. Information from the beginning of the history information that is older than 60 days is removed.

---

**RMVJOBJS (Remove Job using Job Scheduler) Command**

**Format**

Job: B,I Pgm: B,I REXX: B,I Exec



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

**Purpose**

The Remove Job using Job Scheduler (RMVJOBJS) command allows you to remove a job from the job schedule.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

The job can belong to a job group.

**Note:** You must remove all subordinate job groups before a job with sequence number 1 can be removed.

## Examples

### Example 1: Removing a Job

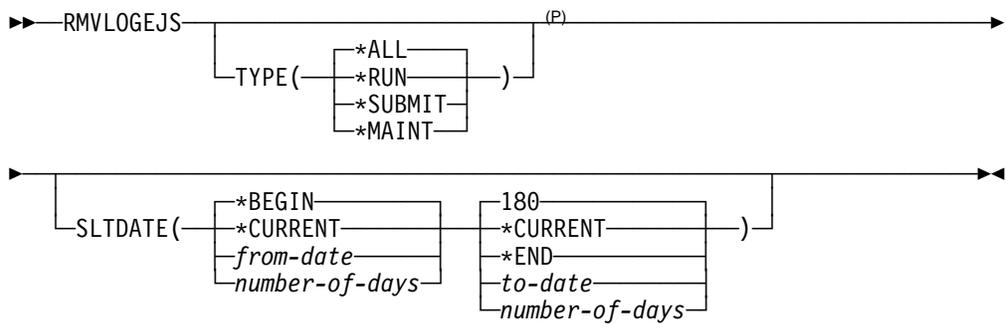
```
RMVJOBJS JOB(JOB02 ACCTG 11)
```

In the example, JOB02 which is sequence number 11 in the group ACCTG, is removed.

## RMVLOGEJS (Remove Log Entries from Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

### Purpose

The Remove Log Entries from Job Scheduler (RMVLOGEJS) command allows you to clear the Job Scheduler log based on a date range that you specify.

## Examples

### Example 1: Removing All Log Entries

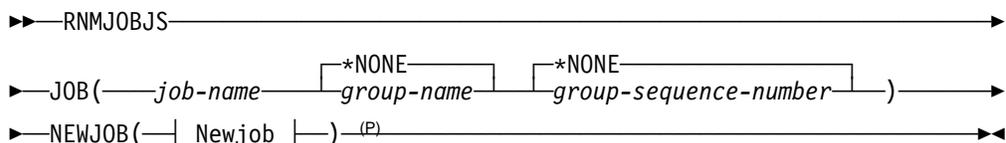
```
RMVLOGEJS TYPE(*ALL) SLTDATE('3/12/94' '4/12/94')
```

In the example, all log entries are removed for the period March 12, 1994 to April 12, 1994. SLTDATE is expressed in mm/dd/yy format in this example.

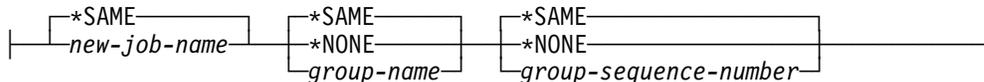
## RNMJOBJS (Rename Job using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



**Newjob:**



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

## Purpose

The Rename Job using Job Scheduler (RNMJOBJS) command allows you to rename a job.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

After renaming the job, you can change any or all of the associated parameters.

**Note:** No subordinate jobs for a group can exist in order to rename the sequence 1 job of the group.

## Examples

**Example 1: Renaming a Job**

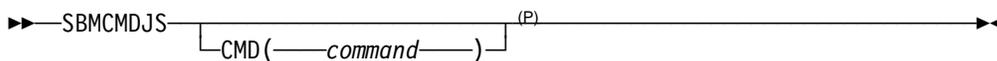
```
RNMJOBJS JOB(JOB02) NEWJOB(JOB04)
```

In the example, JOB02 is renamed to JOB04.

## Submit Console Command (SBMCMDJS) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

## Purpose

The Submit Console Command (SBMCMDJS) command allows you to submit a command to the system console. The SBMCMDJS command works in conjunction with the console monitoring function of Job Scheduler. If the console monitor function is active, the command request will be processed. If the console function is not active, the request is not processed until the console monitoring begins.

## Examples

**Example 1: Submitting a Console Command**

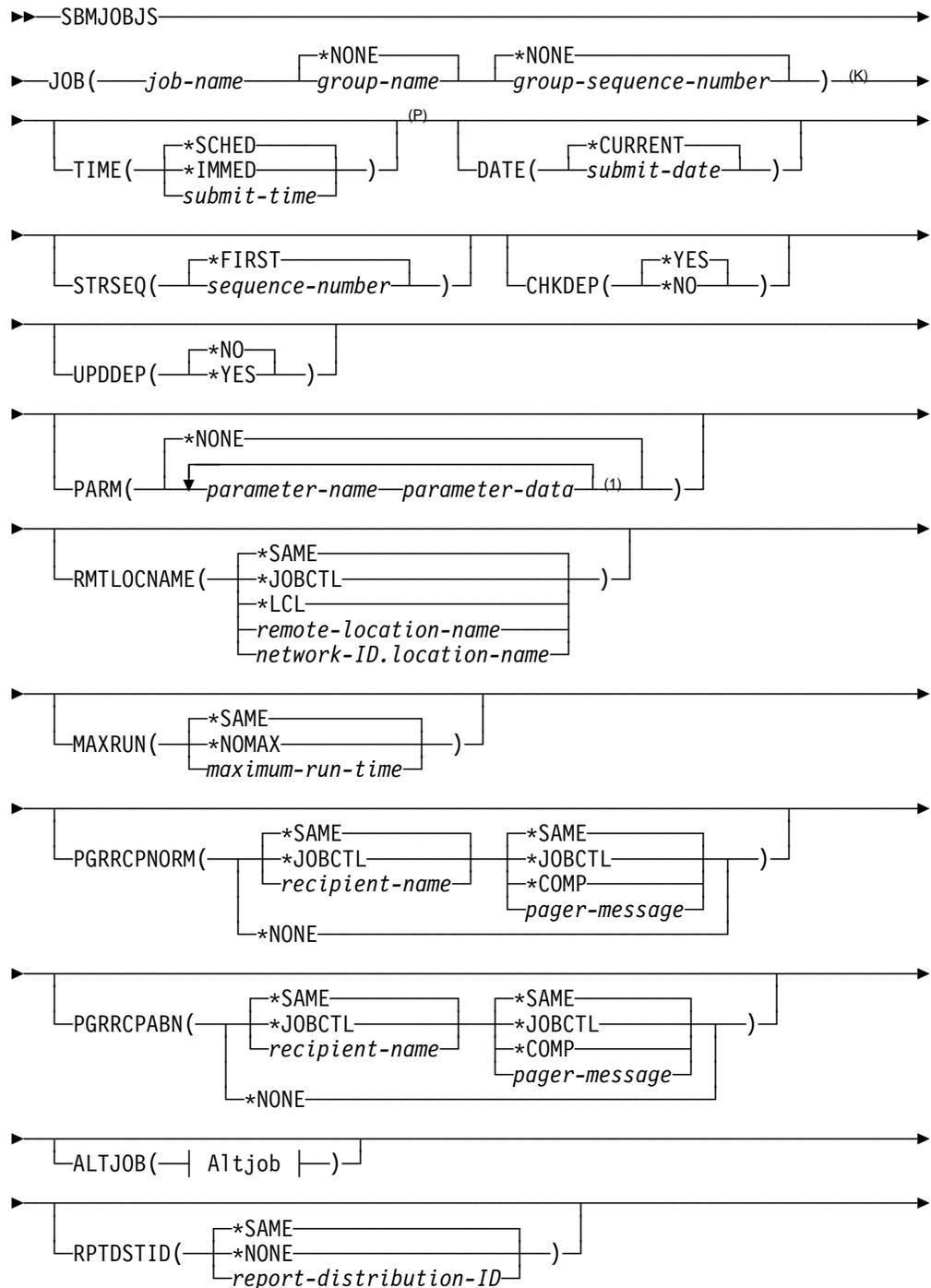
```
SBMCMDJS CMD(CALL SAVALL)
```

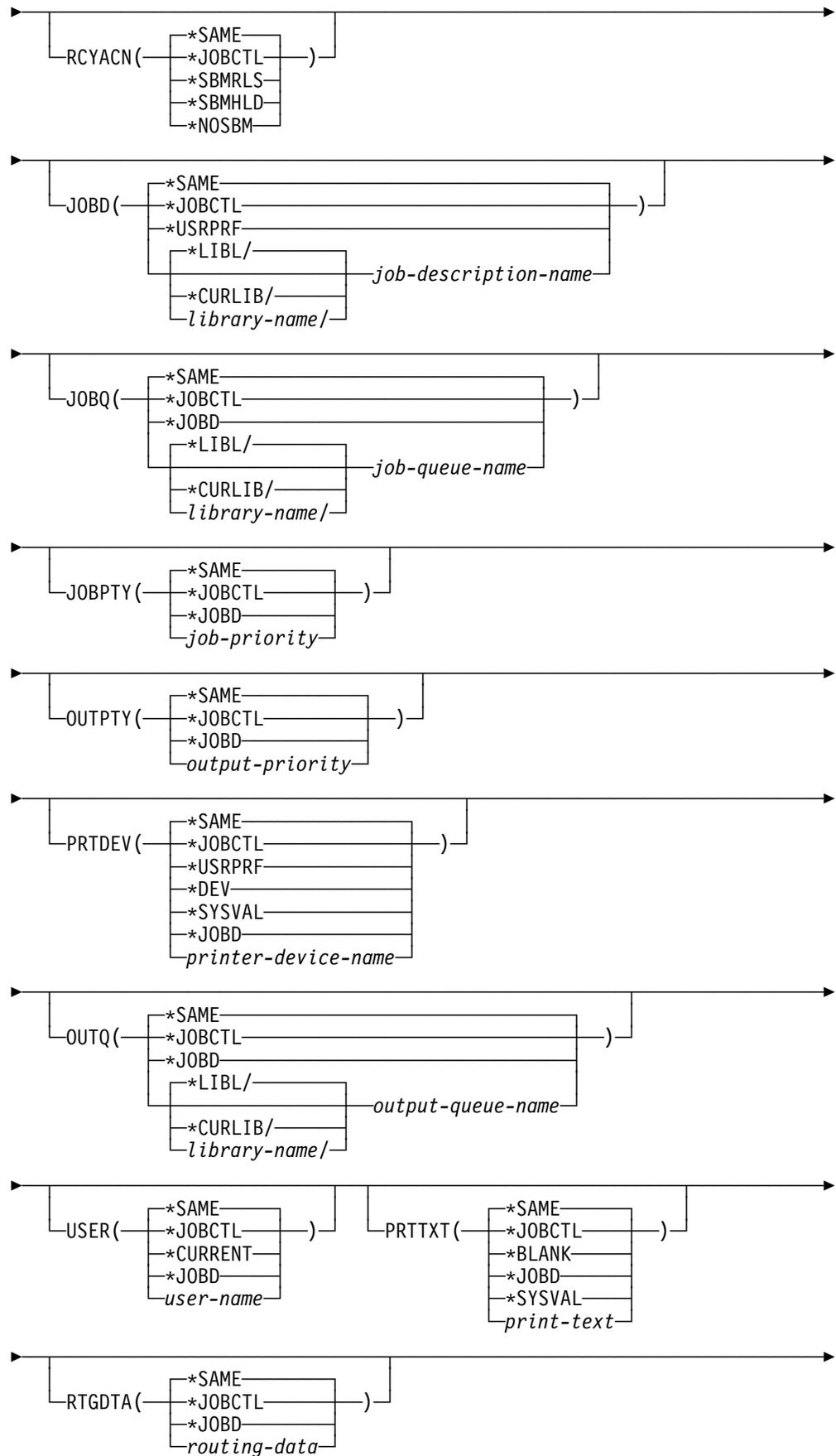
In the example, a command is sent to the console to call a program SAVALL.

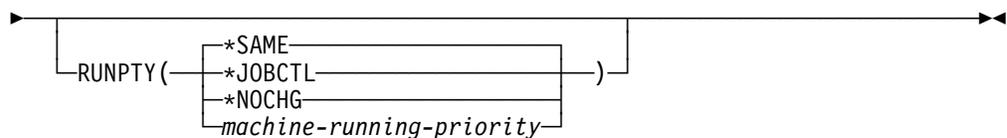
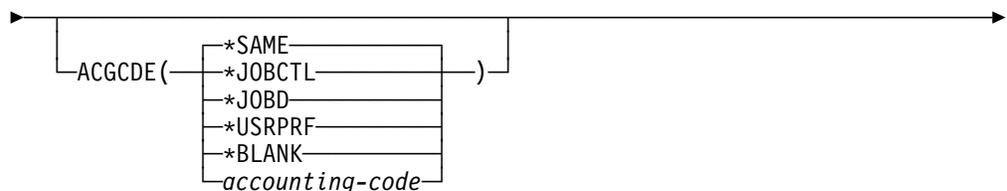
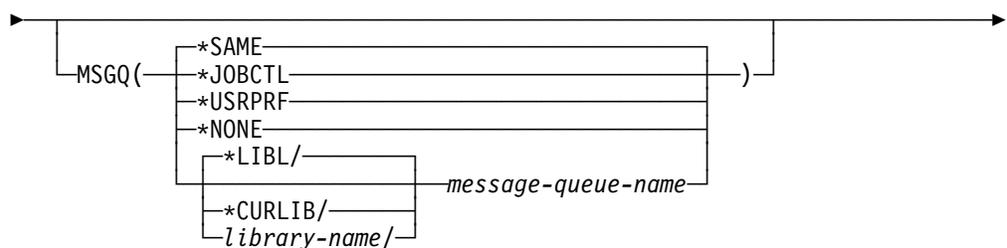
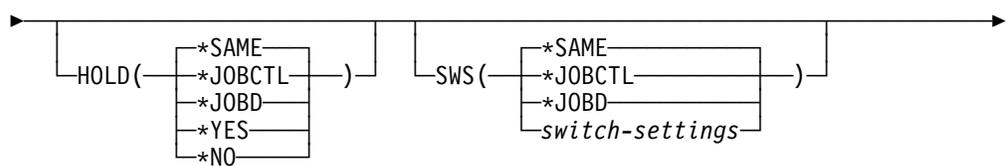
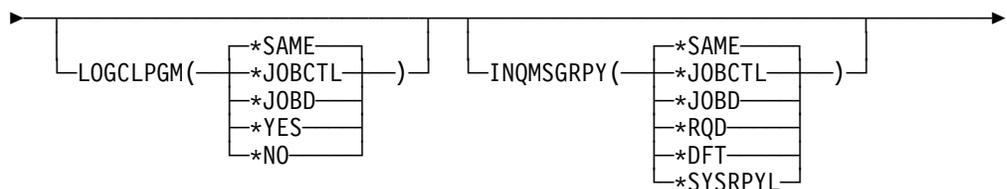
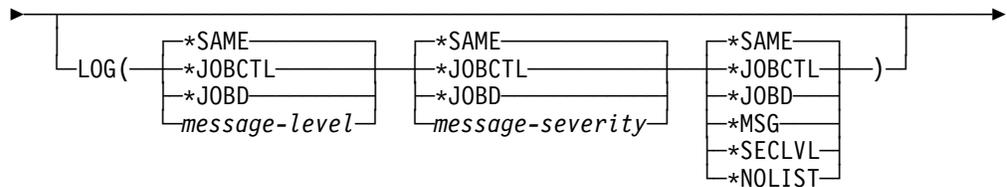
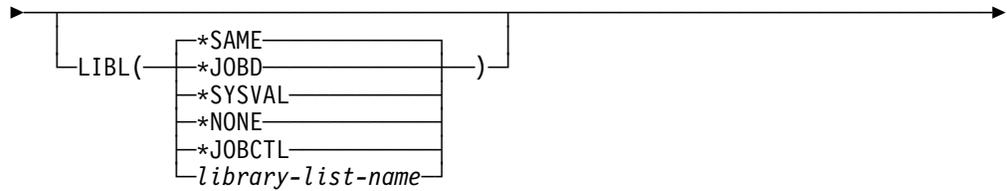
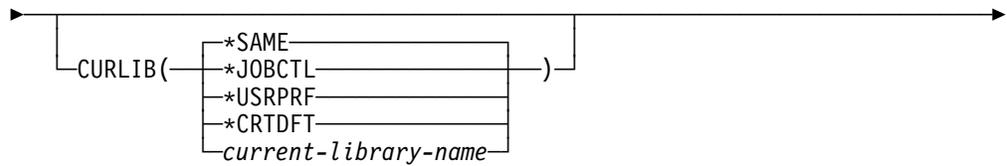
## SBMJOBJS (Submit Job using Job Scheduler) Command

### Flags

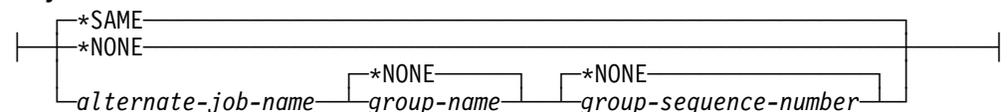
Job: B,I Pgm: B,I REXX: B,I Exec







**Altjob:**



**Notes:**

- <sup>K</sup> All parameters preceding this point are key parameters.
- <sup>P</sup> All parameters preceding this point can be specified positionally.
- <sup>1</sup> A maximum of 50 repetitions.

## Purpose

The Submit Job using Job Scheduler (SBMJOBJS) command allows you to submit a job from Job Scheduler.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

### Restrictions:

1. The user must have use authority to the job description and the user profile.
2. The user must have use and add authorities to the message queue and the output queue.
3. The user must have read authority to the job queue and to all libraries associated with the specified objects. CHGJOBJS, SBJJOBJS
4. The user must have use authority to the \*ADDJOB function.

## Examples

### Example 1: Submitting a Job

```
SBMJOBJS JOB(JOB02) TIME('300') DATE('8/19/94')
```

In this example JOB02 is scheduled for submission at 3:00 a.m. on August 19, 1994. DATE is expressed in mm/dd/yy format in this example.

---

## SETDEPJS (Set Dependent Job using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec

```
▶▶ SETDEPJS—PREDJOB(—| Predjob |—)(P)—| SUCCJOB(—| Succjob |—)
▶
| COMPLETE(—| *YES |—| *NO |—)
▶▶
```

#### Predjob:

```
|—predecessor-job-name—| *NONE |—| *NONE |—|
|—group-name—| |—group-sequence-number—|
```

#### Succjob:

```
|—*ALL—|
|—successor-job-name—| *NONE |—| *NONE |—|
|—group-name—| |—group-sequence-number—|
```

#### Note:

- <sup>P</sup> All parameters preceding this point can be specified positionally.



## Examples

### Example 1: Distributing Reports

```
SNDRPTJS RPTDSTID(GLEOM)
```

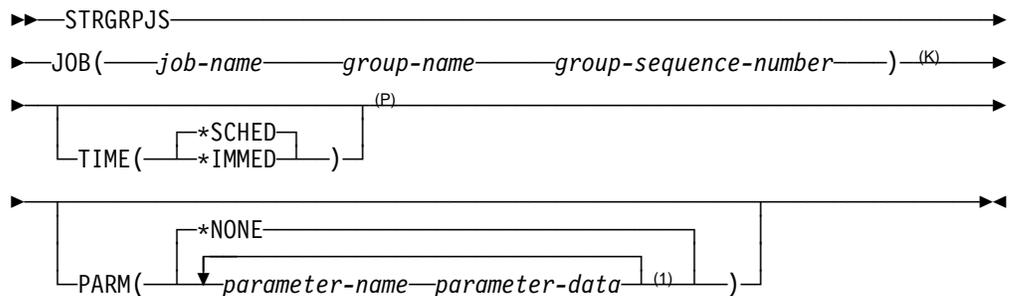
In this example a job is being distributed using report distribution ID GLEOM.

---

## STRGRPJS (Start Group using Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



#### Notes:

- <sup>K</sup> All parameters preceding this point are key parameters.
- <sup>P</sup> All parameters preceding this point can be specified positionally.
- <sup>1</sup> A maximum of 50 repetitions.

## Purpose

The Start Group using Job Scheduler (STRGRPJS) command allows you to start a job group.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

The group will start with the first job you specify and submit all jobs that follow the job. For instance, if a group contains 10 jobs (group sequence numbers 1 through 10), and you specify job number 5 in the JOB parameter, then jobs 5 through 10 will be submitted as a result of the STRGRPJS command. If you want to process the entire group, you should specify the name of the job that has sequence number 1. You can specify the time and parameter data associated with the group.

## Examples

### Example 1: Starting a job group

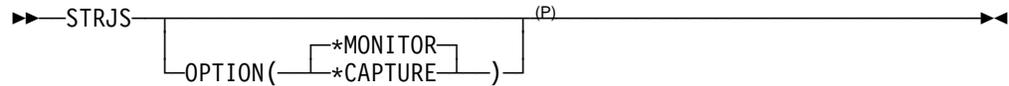
```
STRGRPJS JOB(JOB02 APDAILY 20) TIME(*IMMED)
```

In this example a group called APDAILY is started immediately starting with the job sequence number 20.

## STRJS (Start Job Scheduler) Command

### Format

Job: B,I Pgm: B,I REXX: B,I Exec



**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

### Purpose

The Start Job Scheduler (STRJS) command allows you to start the Job Scheduler job monitor or to capture job information for application software. If you start the job monitor and there are jobs with scheduled dates and times less than the current date and time, you are transferred to the Start Monitor display where you can choose whether you want to start the Job Scheduler monitor without reviewing scheduled jobs or delay starting the monitor until after you have reviewed the pending jobs.

### Examples

**Example 1: Starting the Job Scheduler Monitor**

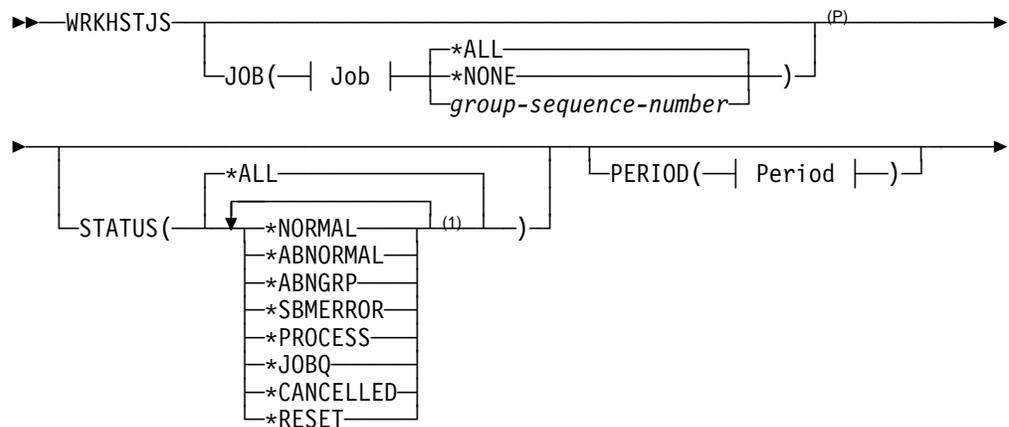
```
STRJS OPTION(*MONITOR)
```

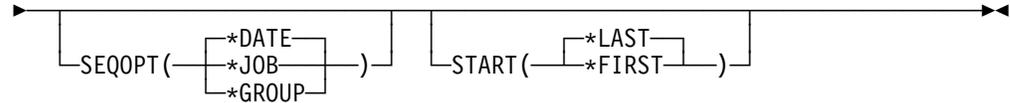
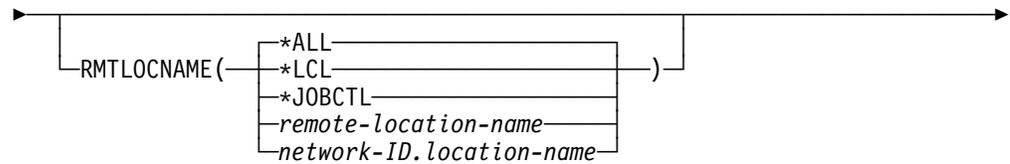
In this example the Job Scheduler monitor is started. The monitor stays active until you process the End Job Scheduler (ENDJS) command.

## WRKHSTJS (Work with History using Job Scheduler) Command

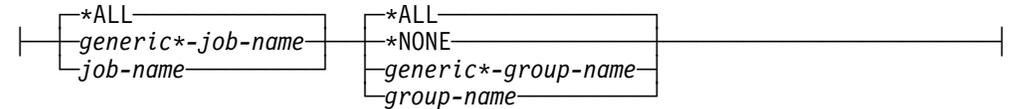
### Format

Job: I Pgm: I REXX: I Exec

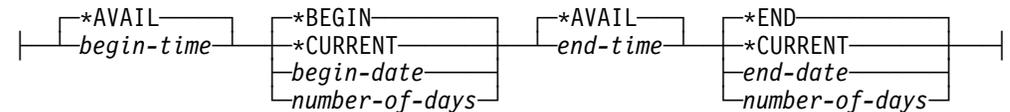




**Job:**



**Period:**



**Notes:**

- <sup>P</sup> All parameters preceding this point can be specified positionally.
- <sup>1</sup> A maximum of 7 repetitions

## Purpose

The Work with History using Job Scheduler (WRKHSTJS) command allows you to work with job completion history based on specified completion status, date ranges and sequences. The Work with History using Job Scheduler command takes you to the Work with History display which shows the job information, last run information and completion status for jobs based on the parameters you have selected in the WRKHSTJS command.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

## Examples

**Example 1: Working with Job Scheduler History**

```
WRKHSTJS SEQOPT(*JOB)
```

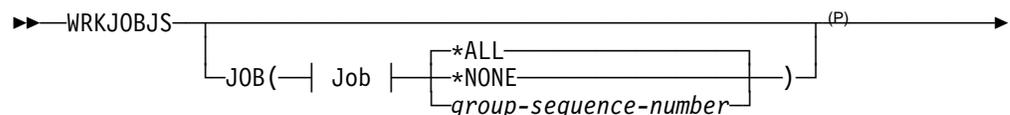
In this example the Work with History display is displayed for all jobs and all groups. The display is sequenced by job.

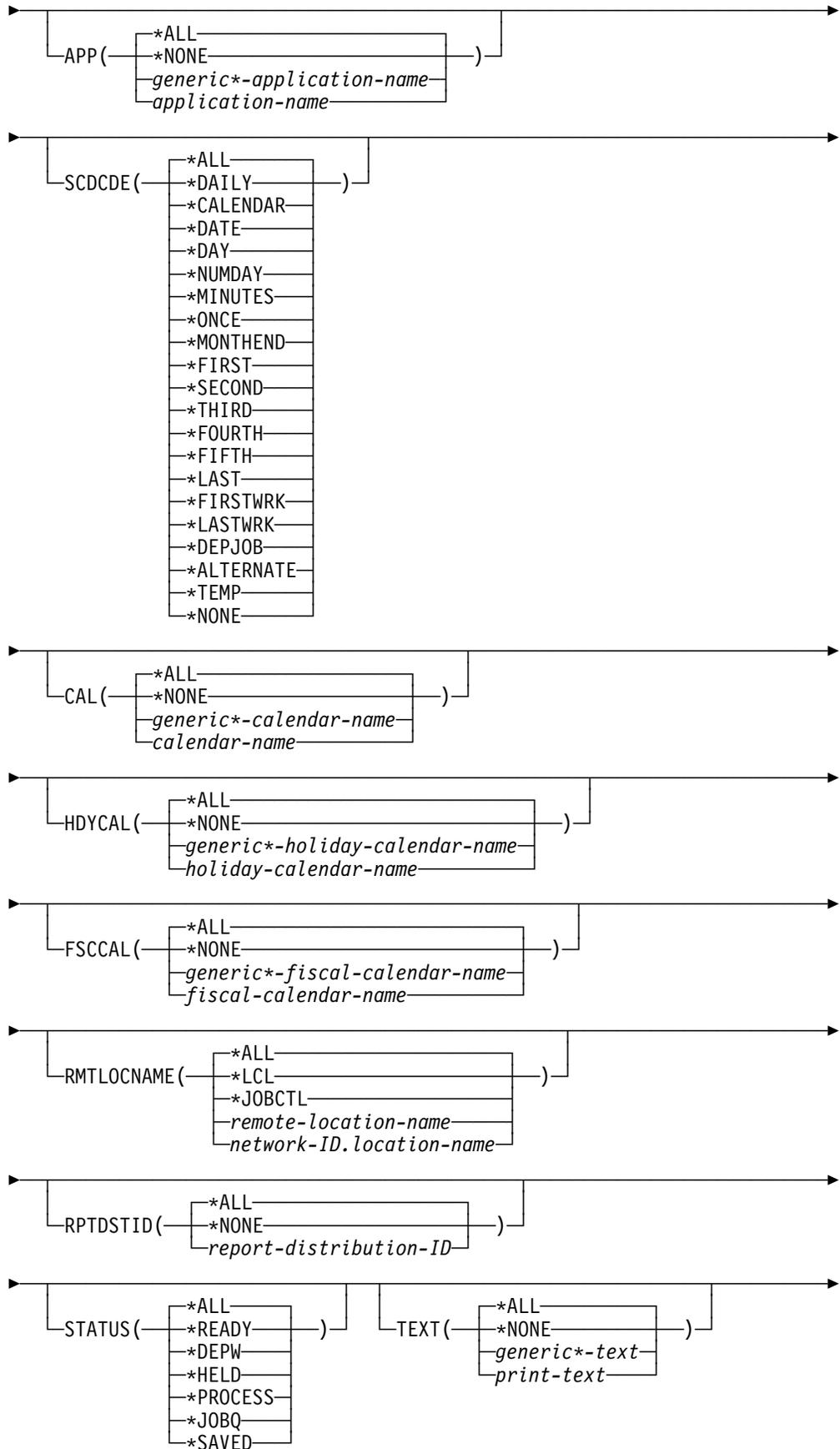
---

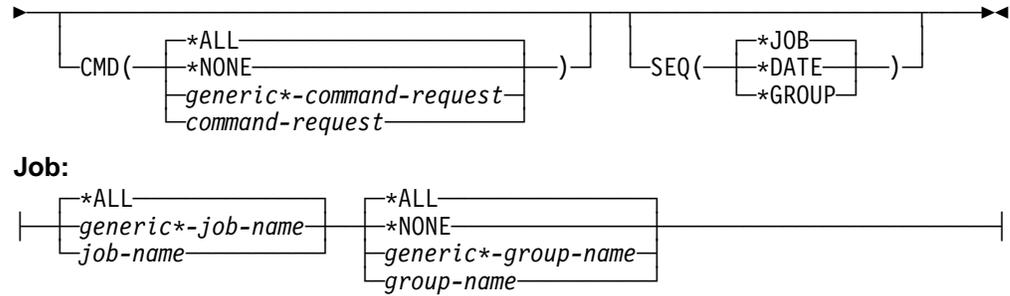
## WRKJOBJS (Work with Jobs using Job Scheduler) Command

### Format

Job: | Pgm: | REXX: | Exec





**Note:**

<sup>P</sup> All parameters preceding this point can be specified positionally.

## Purpose

The Work with Jobs using Job Scheduler (WRKJOBJS) command allows you to work with a single job, groups of jobs or all jobs that you have set up in Job Scheduler. You can sequence the display by job, by date or by group.

When you select jobs that you want to work with, you are taken to the Work with Jobs display. From this display you can perform most job related functions.

**Note:** When referring to a job in this command, we are referring to an entry in Job Scheduler. An **entry** in Job Scheduler is a user-defined name for commands or programs that you want to process at scheduled times and dates. Job Scheduler jobs (entries) are not OS/400 objects.

## Examples

### Example 1: Work with Jobs in Date Sequence

```
WRKJOBJS SCDCDE(*DAILY) STATUS(*READY) SEQ(*DATE)
```

In this example all jobs are included in the Work with Jobs display that have a schedule code of \*DAILY and a status code of \*READY. The display is presented in date sequence.



## Appendix B. Report Summary

The following is a list of all reports that are available from Job Scheduler. The title of each report, the command or commands that can be used to generate the report, and the associated printer file is listed.

*Table B-1. Report Summary*

<b>Report title</b>	<b>Command</b>	<b>Printer file</b>
Applications	-	QPIJSAW
Calendar Report	-	QPIJSCA
Display Command List	DSPJOBJS	QPIJSDJ
Display Job	DSPJOBJS	QPIJSDJ
Display Active Dependencies	DSPJOBJS	QPIJSDJ
Display Job Dependencies	DSPJOBJS	QPIJSDJ
Display Job Documentation	DSPJOBJS	QPIJSDJ
Display Job LDA	DSPJOBJS	QPIJSDJ
Display Object Dependencies	DSPJOBJS	QPIJSDJ
Fiscal Calendar Report	-	QPIJSFC
Holiday Calendar Report	-	QPIJSHC
Job Dependency	-	QPIJS2PCR
Job Documentation	-	QPIJSDW
Job History by Date	DSPHSTJS	QPIJSHST
Job History by Group		
Job History by Job		
Job List by Date	DSPJOBJS	QPIJSMST
Job List by Group		
Job List by Job		
Job Scheduler Log	DSPLOGJS	QPIJSLG
Job Schedule	PRTSCDJS	QPIJSFOR
Library List Report	-	QPIJSLB
Parameter Report	-	QPIJSPRM
Recipient Report	-	QPIJSRCP
Report Distribution by Recipient	-	QPIJS3RD
Report Distribution by Manager		
Report Distribution ID Report	-	QPIJSRD



---

# Glossary

## A

**active dependency.** Jobs that cannot be active (have input or output in process) when a specified job is to be submitted are kept in an active dependency list. Job Scheduler monitors this list when submitting a job that is dependent on the list and will not allow processing to start until all jobs in the list are inactive.

Active dependencies can be characterized as jobs which are reviewed for job conflicts. If a conflict situation occurs, a job will wait to run, whereas if the conflict situation does not exist, the job will run.

**alternate job.** Alternate jobs are used with jobs that do not process successfully. When Job Scheduler detects an unsuccessful job completion, it checks to see if there is an alternate job associated with the unsuccessful job. If there is, Job Scheduler processes the alternate job. Jobs are not required to have alternate jobs.

**application.** Jobs can be grouped for processing into applications. An example of an application is the Payroll application or Accounts Payable application.

## C

**calendars.** Calendars are user-defined schedules based on dates that can be used with all schedule codes except \*NONE, \*ALTERNATE, \*ONCE, and \*NUMDAY.

**command list.** Command lists are the stored set of instructions that Job Scheduler uses to process a job that you define.

**completion history.** Completion history is information describing whether a job finished successfully or unsuccessfully, the time and date that it last ran and other information pertinent to running a job.

## D

**dependency.** Dependency indicates that the action applied to a job relies on the state of another job. For instance, an object dependency is used to determine whether Job Scheduler can process a job based on the existence of an object.

## F

**fiscal calendar.** A fiscal calendar is a user-defined calendar or calendars in Job Scheduler that relates to a financial year rather than a calendar year. An example would be a fiscal calendar that included the closing dates for an accounting application, which may or may not correspond to calendar dates.

**fiscal period.** A fiscal period is an entry in a fiscal calendar. A fiscal period has a starting and ending date designated.

**function authority.** Function authority is the privilege or denial of privilege to use specified Job Scheduler functions. An example of a function authority would be the ability to add a job, change job defaults and change system defaults.

## H

**holiday calendar.** Holiday calendars are exception calendars for days that you do not want to allow processing for a Job Scheduler job. Alternate days can be specified for each exception day that you specify in a holiday calendar.

## J

**job.** A job is a user-defined name for commands that you want Job Scheduler to automatically process at a date and time you specify or Job Scheduler calculates. Job Scheduler are not OS/400 objects.

**job controls.** Job controls are the set of defaults that you use for any job that you add to Job Scheduler. Job controls can be overridden at the individual job level.

**job dependency.** A job dependency is a relationship between jobs that is established in Job Scheduler by you. Jobs can be dependent on the existence of another job, whether a job is active, whether a file has information in it and so on.

**job group.** Job groups are jobs that are grouped together to run consecutively according to a sequence that you specify. A normal completion is required for each job in the group before the next job can begin.

**job history.** Job history is a summary of when a job ran, elapsed time, how it completed and the various completion codes associated with the job.

**job monitor.** The Job Scheduler job monitor is a special AS/400 job that constantly monitors the job

schedule to determine when and where jobs are to be run.

**job schedule.** The Job Scheduler job schedule is the list of jobs that are managed by Job Scheduler. Job Scheduler reviews the job schedule and when the proper time and date occurs, runs the jobs.

**job security.** Job security is specific privileges or denial of privileges assigned at the job level. For instance, you could specify that only one person could run a specified Job Scheduler job, whereas all other users could view the job, but not change it.

**job statistics.** Job statistics are available online or via printed reports. Job statistics include such things as start and stop times, how long a job ran, what type of completion code is indicated and so on.

## L

**library list.** Library lists are user-defined lists of libraries that are used by Job Scheduler jobs when the jobs are processing.

**local data area (LDA).** The local data area for a job is the stored values that are used when the job is processed. Local data areas are used most by application software packages to pass information to a job or jobs that follow. Job Scheduler provides a way to capture and store LDA information for use with application software packages.

**log.** The Job Scheduler log contains all activities associated with Job Scheduler processing, such as when the monitor was started, when it was stopped, system messages and so on.

## M

**maximum run time.** The maximum number of minutes that a job will be allowed to process. If the job is not complete before the maximum number of minutes, the job is terminated.

**maximum wait time.** The maximum wait time is the number of minutes that an active or object dependent job will wait. If a job is active or an object not present in the designated number of minutes, the job that is waiting is reset (rescheduled for its next scheduled run time).

## N

**networking.** Job Scheduler jobs can be scheduled on an AS/400 and run on another AS/400 in the network. Job history completion information is kept on the AS/400 that scheduled the job.

## O

**object dependency.** Jobs can be specified to require the existence of an object before they can process. For instance, you can specify an object dependency that requires a file to have records in it before the dependent job can process.

## P

**pager.** A pager is a device capable of receiving messages (digital or alphanumeric). Job Scheduler can send messages through an automated paging package that you designate to a pager.

**parameter.** Parameters are variables that you can store in Job Scheduler and use in jobs submitted through Job Scheduler. Examples of parameters are the beginning of each month, a division number, a company number and so on.

**parameter data.** Parameter data is the actual values associated with a parameter.

**predecessor job.** A predecessor job is a job that must process before other jobs can be submitted through Job Scheduler.

## R

**recipient.** A recipient is a person, department or other organizational designation that is specified to receive a report managed by Job Scheduler.

**recovery action.** The recovery action is the action that is to be taken if a job cannot be submitted at the designated time and date because the system is powered down or in restricted state. The choices specified in the recovery action determine what happens to the job that was not submitted.

**reference calendar.** Reference calendars are lists of dates that can be added to another existing calendar.

**report distribution ID.** Report distribution IDs are used to group spooled files (reports) that you want users to receive as a result of Job Scheduler processing.

**report distribution.** Report distribution is the categorization and distribution of reports defined to Job Scheduler.

## S

**schedule code.** Schedule codes are keywords designation for various scheduling scenarios that can be assigned to Job Scheduler jobs. For instance the schedule code \*DAILY indicates that a job is to be run daily at a time that you designate. There are over 15 schedule codes available in Job Scheduler.

**submit jobs.** Job Scheduler submits a job to OS/400 based on the job schedule kept in Job Scheduler.

**successor job.** A successor job is a job that runs after all predecessor jobs have been processed. There can be multiple successor jobs for a single predecessor job. A successor job cannot be a group job with a schedule code of \*ALTERNATE.

**system controls.** System controls are system wide defaults for Job Scheduler. An example of a system control is the working days of the week.

**system name.** The system name is the identification of the system on which you want to process a Job Scheduler job. The local system is designated as \*LCL.

**system parameters.** System parameters are date parameters that deal with passing the date into the commands to process a Job Scheduler job.



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