

JRH QSCAN for OS/390 & zOS

Reference Manual

Version 1.1

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Golden State Software Inc.

**310-544-1497
29011 Golden Meadow Drive
Rancho Palos Verdes, CA 90275
United States**

<http://www.jrh-inc.com/>

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Introduction

JRH QSCAN© for OS/390 and zOS is a Batch Job JES Queue Scan system. It allows you to

- Scan all, group or individual batch jobs thru SDSF interface.
- Parse and extract by job-name, job-number, Job-step, proc-step, Job-Date, Start-Time, Duration, CC together with CPU and SRB information. Additional user defined field can also be included thru REXX interface.
- The output of the JRH QSCAN can be optionally inserted into a QSCAN DB2 table, so that you can use any SQL reporting tool to analyses and report the saved statistics.
- JRH QSCAN also allows you set up alert condition by using REXX language interface. When alert condition is raised, JRH QSCAN will send Alert Messages to email addresses or Pager number thru SMTP interface. This option gives you a proactive approach, which allows you to monitor your batch jobs easier. For examples, you can use JRH QSCAN to send you a email if any of your production jobs terminated abnormally with CC > 8 or any S222, S322 ABEND Etc.
- When Alert condition is raised, JRH QSCAN can optionally, if desirable, send the Alert Message to System Console for your Attention.
- JRH QSCAN can also be used to provide FTP service to push down the Host report or information down to your server, which can then be used for other purpose. JRH QSCAN scans the Job Queue and extract specific information from Job queue, thru REXX language interface it can then send them to a FTP server with OS390 or zOS FTP service. This facility allows you to push down the information with legacy mainframe report and make them immediately available when they are available through old mainframe batch report.

How JRH QSCAN Works

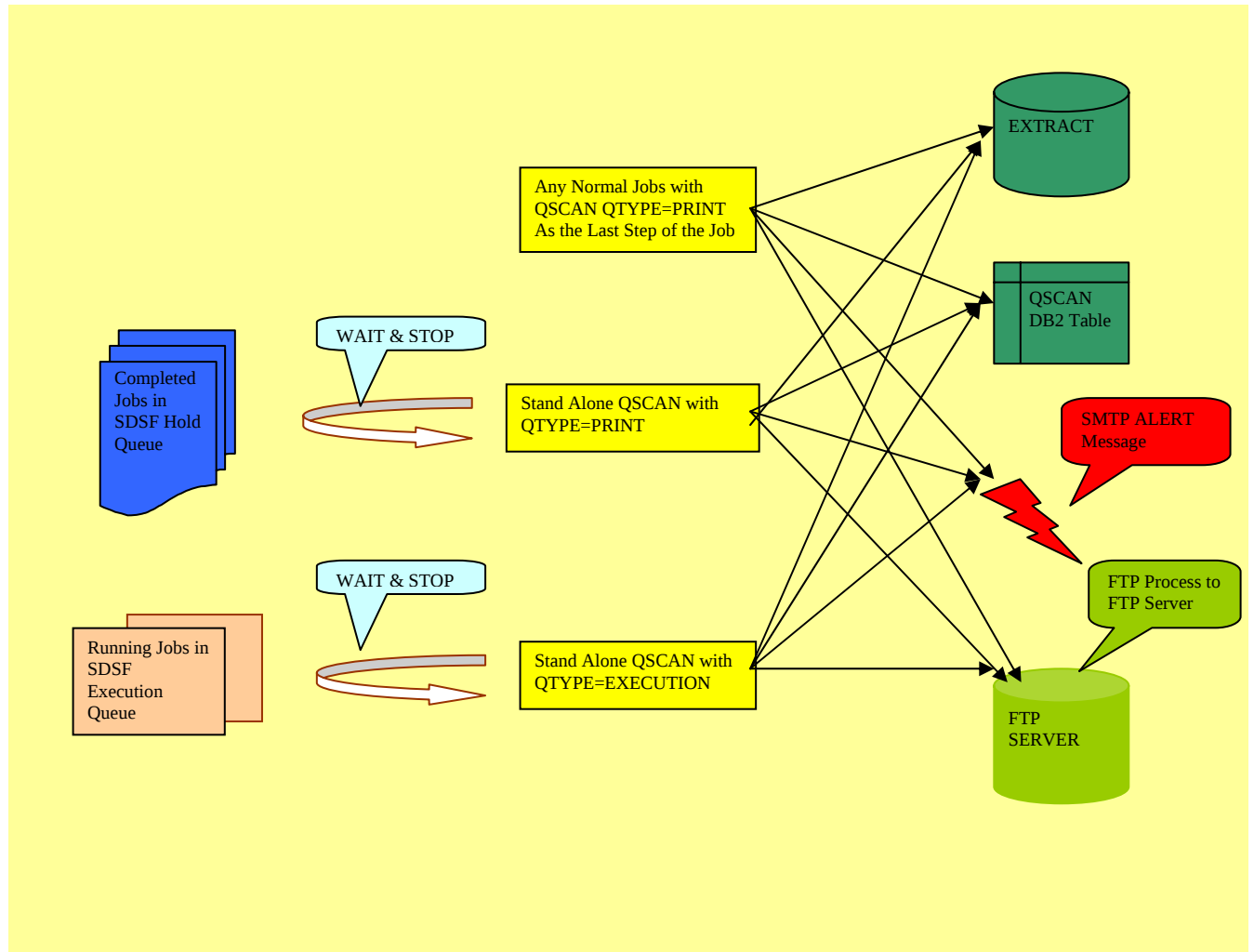
JRH QSCAN can be invoked as a standalone service process or can be used as part of your existing job. When you use it to scan your existing job, you add a QSCAN step as the last job step to your existing job.

When it is used as a standalone service, depends on how busy your system is, you can define a Wait Period in the format of WAIT=mmss (wake up after a predefined time period) and it wake up when Wait Period expired and then it scans JES job queue for qualified jobs and then process your options:

- o Extract basic job run information and save to a selected extract file with criteria defined in REXX script.
- o Optional extract additional run information with criteria defined in REXX script.
- o Optional save the extracted information into a db2 table.
- o Optional sends alert message email thru SMTP or system console message with criteria defined in REXX script.
- o Optional sends information thru FTP with criteria defined in REXX script.

When it is used as the last job step of your existing job, it has the same functions as standalone service but only for scanning the information of job steps of the existing job steps,

JRH QSCAN Processing Flow



System Installation

Transfer Unzipped PC files to Host

Please use the following appropriate Host File transfer option to upload these files:

For **Initial Installation** of QSCAN:

<u>PC file name</u>	<u>Host file transfer options</u>	
QSCANU0	Fixed/LRECL=80/BLKSIZE=0/Binary	Space allocation(TRK,(15,1))
QSCANU1	Fixed/LRECL=255/BLKSIZE=0/Binary	Space allocation(TRK,(15,1))
QSCANU2	Fixed/LRECL=80/BLKSIZE=0/Binary	Space allocation(TRK,(15,1))
QSCANU3	Fixed/LRECL=80/BLKSIZE=0/Binary	Space allocation(TRK,(15,1))
QSCANU4	Fixed/LRECL=80/BLKSIZE=0/Binary	Space allocation(TRK,(15,1))
QSCANU5	Fixed/LRECL=80/BLKSIZE=0/Binary	Space allocation(TRK,(15,1))

For **Migration** from previous release or evaluation copy of QSCAN:

<u>PC file name</u>	<u>Host file transfer options</u>
QSCANU0	Fixed/LRECL=80/BLKSIZE=0/Binary
QSCANU1	Fixed/LRECL=255/BLKSIZE=0/Binary
QSCANU2	Fixed/LRECL=80/BLKSIZE=0/Binary
QSCANU3	Fixed/LRECL=80/BLKSIZE=0/Binary
QSCANU4	Fixed/LRECL=80/BLKSIZE=0/Binary
QSCANU5	Fixed/LRECL=80/BLKSIZE=0/Binary

Use TSO RECEIVE to receive installation REXX from QSCANU0

Go to ISPF command Shell and issue RECEIVE command to receive the QSCANU0 file.

```

                                ISPF Command Shell
Enter TSO or Workstation commands below:

====> RECEIVE INDSN('tsoid.QSCANU0')
```

After you press ENTER key, you should have the following displayed.

```

INMR901I Dataset JRHJ.QSCAN0 from JRHJ on ????????
INMR906A Enter restore parameters or 'DELETE' or 'END' +
```

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Please enter the following and press ENTER key to receive the QSCANU0.

The example below uses 'JRHJ.QSCAN.INSTALL' as the receiving data set.

If you migrate from previous installation or applying fixes, make sure **use the same name to receive QSCANU0**. For our example here 'JRHJ.QSCAN.INSTALL', so that during the migration or fixes apply, QSCAN will pick up setup information from previous installation. (Previous installation setup information is stored in an member called **INFO**)

```
dsn('JRHJ.QSCAN.INSTALL.EXEC')
```

```
.  
.   
.   
IGW01551I MEMBER FSETUP HAS BEEN LOADED  
IGW01551I MEMBER INST HAS BEEN LOADED  
IGW01551I MEMBER INSTALL HAS BEEN LOADED  
IGW01551I MEMBER MQSCANP HAS BEEN LOADED  
IGW01551I MEMBER MDYNSORT HAS BEEN LOADED  
IGW01551I MEMBER MSSID HAS BEEN LOADED  
IGW01550I 9 OF 9 MEMBERS WERE LOADED  
IEB1056I RELEASED 1016K ADDITIONAL BYTES.  
IEB147I END OF JOB - 0 WAS HIGHEST SEVERITY CODE  
INMR001I Restore successful to dataset 'JRHJ.QSCAN.INSTALL.EXEC'  
***
```

Execute Install REXX in QSCAN.INSTALL to generate installation JCL

Uses the example above, you should do the following:

TSO EX 'JRHI.QSCAN.INSTALL (INSTALL)'

The following installation option screen is displayed which allows you to proceed the installation:

Initial Installation and Migration

Setup Jobcard

Select option 0 to setup JOB card information to be used for any job generated from QSCAN menu.

```
#MENU

                JRH  Q  S  C  A  N
                For OS/390 and zOS

                Version 1.1
                Release Date: 04/11/2008

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                Web Site: www.jrh-inc.com
                (c) Copyrighted 2006-2008

Option ==> 0

    0 - Setup Job Card                      DATE   - 08/04/13
    I - Initial Installation                 TIME   - 16:55
    M - Migrates from previous Release of QSCAN  USERID - JRHI
    S - SETUP
    V - View/Maintain Activity Log

PF3=Exit  ENTER=To Process your Option selection
```

```
#SETUPJ ----- QSCAN for OS/390 and zOS JOBCARD Setup Menu -----
Option =>

//JRHI0  JOB 'ADCD V2R9','SYSPROG',NOTIFY=&SYSUID,REGION=0M_____
_____
_____

PF3=Exit  ENTER=To Process your Option selection
```

Initial Installation

Choose option I-Initial Installation if this is the first time you try to install QSCAN product.

```
#MENU

                JRH  Q  S  C  A  N
                For OS/390 and zOS

                Version 1.1
                Release Date: 04/11/2008

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Option ==> I

    0 - Setup Job Card                                DATE   - 08/04/13
    I - Initial Installation                          TIME   - 16:55
    M - Migrates from previous Release of QSCAN      USERID - JRHJ
    S - SETUP
    V - View/Maintain Activity Log

PF3=Exit  ENTER=To Process your Option selection
```

Select option **I - Initial Installation check and JCL generation** to generate product installation JCL. The following screen is displayed to allow you to enter your environment specific information.

```
#MENU  ----- QSCAN for DB2/OS390 Installation Menu -----
Installation Option ==>

    I - Initial Installation Check and                DATE   - 08/04/13
        JCL Generation                              TIME   - 14:36
                                                    USERID - JRHJ

PF3=Exit  ENTER=To Process your Option selection
```

```
#INST-----QSCAN for DB2/OS390 & UDB/zOS Installation Screen-----

QSCAN PC Upload File 1  JRHJ.QSCANU1_____
QSCAN PC Upload File 2  JRHJ.QSCANU2_____
QSCAN PC Upload File 3  JRHJ.QSCANU3_____
QSCAN PC Upload File 4  JRHJ.QSCANU4_____
QSCAN PC Upload File 5  JRHJ.QSCANU5_____
DB2 Load Library        DSN810.SDSNLOAD_____
DB2 User Run Library     DSN810.RUNLIB.LOAD_____
QSCAN CLIST Library      JRHJ.QSCAN.CLIST_____
QSCAN Other Library      JRHJ.QSCAN.LIB_____
QSCAN Load Library       JRHJ.QSCAN.LOAD_____
QSCAN Control Library    JRHJ.QSCAN.CNTL_____
QSCAN Tolist Library     JRHJ.QSCAN.TOLIST_____
QSCAN Dynamic Cntl Lib   JRHJ.QSCAN.DYNCNTL_____
QSCAN Check Point File   JRHJ.QSCAN.CKPTDSN_____
DB2 SubSystem ID         DB8G_____
Plan Name for DSNTIAD    DSNTIA81_____
Default ISPSLIB          SYS1.ISPSLIB_____
Default ISPMLIB          SYS1.ISPMLIB_____
Default ISPPLIB          SYS1.ISPPLIB_____
Default ISPTLIB          SYS1.ISPTLIB_____

PF3=Exit  ENTER=To Process your Option selection
```

Please enter all the fields and proceed to generate Installation JCL:

QSCAN PC Upload File 1, 2, 3, 4, 5	QSCAN Upload file 1 thru 5
DB2 Load Library	DB2 Load Library
DB2 User Run Library	DB2 Run Library where DSNTIAD located
QSCAN CLIST Library	QSCAN CLIST library
QSCAN Other Library	QSCAN Other ISFP library
QSCAN Load Library	QSCAN Load Library
QSCAN Control Library	QSCAN Control Statement Library
QSCAN Tolist Library	QSCAN TOLIST library
QSCAN Dynamic Cntl lib	QSCAN Dynamic Control Library
QSCAN Check Point File	QSCAN Check Point File
DB2 SubSystem ID	DB2 sub-system ID
Plan Name for DSNTIAD	DSNTIAD Plan Name
Default ISPSLIB	Default ISPFSLIB
Default ISPMLIB	Default ISPMLIB
Default ISPPLIB	Default ISPPLIB
Default ISPTLIB	Default ISPTLIB

After Enter all information and press Enter:

```
Checking PC Upload File 1: JRHJ.QSCANU1.....
Checking PC Upload File 2: JRHJ.QSCANU2.....
Checking PC Upload File 3: JRHJ.QSCANU3.....
Checking PC Upload File 4: JRHJ.QSCANU4.....
Checking PC Upload File 5: JRHJ.QSCANU5.....
Generating QSCAN Installation JCL.....
***
```

And the result JCL returned from option selection.

```
//JRHJ01 JOB (ACCT),'DB2I2 AD',
//          NOTIFY=&SYSUID,COND=(0,NE),REGION=4M,
//          CLASS=A,MSGCLASS=H
//* -----+
//*          Q S C A N          I N S T A L L A T I O N   J C L          +
//*          By JRH GoldenState Software Inc.                        +
//*          (C) Copyrighted 2006-2008                               +
//* =====+
//* QSCAN PC UPLOAD FILE 1      JRHJ.QSCAN1
//* QSCAN PC UPLOAD FILE 2      JRHJ.QSCAN2
//* QSCAN PC UPLOAD FILE 3      JRHJ.QSCAN3
//* QSCAN PC UPLOAD FILE 4      JRHJ.QSCAN4
//* QSCAN PC UPLOAD FILE 5      JRHJ.QSCAN5
//* DB2 LOAD LIB                DSN810.SDSNLOAD
//* DB2 USER RUN LIB            DSN810.RUNLIB.LOAD
//* QSCAN TOOL CLIST LIB        JRHJ.QSCAN.CLIST
//* QSCAN TOOL OTHER LIB        JRHJ.QSCAN.LIB
//* QSCAN TOOL LOAD LIB         JRHJ.QSCAN.LOAD
//* QSCAN TOOL CONTROL LIB      JRHJ.QSCAN.CNTL
//* QSCAN TOOL TOLIST LIB       JRHJ.QSCAN.TOLIST
//* QSCAN DYNAMIC CNTL LIB      JRHJ.QSCAN.DYNCNTL
//* QSCAN CKPTDSN              JRHJ.QSCAN.CKPTDSN
//* DB2 SubSystem ID            DB8G
//* DSNTIAD Plan Name           DSNTIA81
//* Default ISPSLIB             ISP.SISPSENU
//* Default ISPLIB              ISP.SISPMENU
//* Default ISPPLIB             ISP.SISPPENU
//* Default ISPTLIB             ISP.SISPTENU
//* =====+
//* STEP01: Copy Installation REXX Exec To QSCAN.INST.CLIST
//* STEP02: execute QSCAN.INST.CLIST to install QSCAN.clist
//* STEP03: execute QSCAN.INST.CLIST to install QSCAN.lib
//* =====+
//* -----+
//STEP01   EXEC PGM=IEBGENER
//* -----+
//SYSUT2   DD DSN=JRHJ.QSCAN.INST.CLIST,DISP=(NEW,PASS),
//          UNIT=SYSALLDA,
//          SPACE=(TRK,(1,1),RLSE),DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
//SYSPRINT DD SYSOUT=*
//SYSIN    DD DUMMY
//SYSUT1   DD DATA,DLM=ZZ
/* REXX ----- */
/* QSCAN_INST: Installation REXX EXEC for QSCAN tool                */
/* Author: JRH Goldenstate Software Inc.                            */
/* ----- */
/* trace ?r */
X=Msg("OFF")
"EXECIO * DISKR CNTLIN(STEM CNTLIN. FINIS"
If cntlin.0 \= 13 Then
Do
  Say "QSCAN tool Installation Error"
  Return
End
Do I = 1 to cntlin.0
  Parse value cntlin.i With Type "=" dsname
  Select
    When (Type = "<DSNLOAD>") Then db2load = strip(dsname)
    When (Type = "<RUNLOAD>") Then db2user = strip(dsname)
    When (Type = "<TRKLIB>") Then lib = strip(dsname)
    When (Type = "<TRKCLIST>") Then clst = strip(dsname)
    When (Type = "<TRKLOAD>") Then load = strip(dsname)
    When (Type = "<TRKCNTL>") Then cntl = strip(dsname)
    When (Type = "<TRKTLST>") Then tolist = strip(dsname)
    When (Type = "<SSID>") Then ssid = strip(dsname)
    When (Type = "<PLAN>") Then plan = strip(dsname)
    When (Type = "<ISPSLIB>") Then ispslib = strip(dsname)
    When (Type = "<ISPLIB>") Then isplib = strip(dsname)
    When (Type = "<ISPPLIB>") Then ispplib = strip(dsname)
    When (Type = "<ISPTLIB>") Then isptlib = strip(dsname)
    Otherwise
      Do

```

```

        Say "QSCAN tool Installation Error"
        Return
    End
End
End
"EXECIO * DISKR UPLOAD(STEM UPLOAD. FINIS"
Do I = 1 to Upload.0
Select
    When (Index(Upload.I,"<DSNLOAD>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<DSNLOAD>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""db2load""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<RUNLOAD>") \= 0) Then
    Do
        WPI=Index(upload.I,"<RUNLOAD>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""db2user""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<TRKLIB>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<TRKLIB>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""lib""Substr(Upload.I,WPI+8,247-WPI)
    End
    When (Index(Upload.I,"<TRKCLIST>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<TRKCLIST>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""clst""Substr(Upload.I,WPI+10,245-WPI)
    End
    When (Index(Upload.I,"<TRKLOAD>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<TRKLOAD>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""load""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<TRKCNTL>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<TRKCNTL>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""cntl""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<TRKTLST>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<TRKTLST>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""tolist""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<SSID>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<SSID>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""ssid""Substr(Upload.I,WPI+6,249-WPI)
    End
    When (Index(Upload.I,"<PLAN>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<PLAN>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""plan""Substr(Upload.I,WPI+6,249-WPI)
    End
    When (Index(Upload.I,"<ISPSLIB>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<ISPSLIB>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""ispslib""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<ISPMLIB>") \= 0) Then
    Do
        WPI=Index(Upload.I,"<ISPMLIB>")
        Prepared.I=,
        Substr(Upload.I,1,WPI-1)""ispmlib""Substr(Upload.I,WPI+9,246-WPI)
    End
    When (Index(Upload.I,"<ISPPLIB>") \= 0) Then

```

```

Do
  WPI=Index(Upload.I,"<ISPPLIB>")
  Prepared.I=,
  Substr(Upload.I,1,WPI-1)""isplib""Substr(Upload.I,WPI+9,246-WPI)
End
When (Index(Upload.I,"<ISPTLIB>") \= 0) Then
Do
  WPI=Index(Upload.I,"<ISPTLIB>")
  Prepared.I=,
  Substr(Upload.I,1,WPI-1)""isptlib""Substr(Upload.I,WPI+9,246-WPI)
End
Otherwise   Prepared.I = Upload.I
End
End
"NEWSTACK"
First_Time = 'YES'
Do I = 1 to upload.0
  IF Substr(Prepared.I,1,14) = "***----->>>>>>>" THEN
    DO;
      IF First_Time = "YES" THEN
        First_Time = "NO"
      ELSE
        DO;
          "ExecIO 0 Diskw Outfile (Finis"
          "Free FI(Outfile)"
        END;
        Pdsds=WORD(Prepared.I,2);
        Say "Creating "Pdsds
        II = INDEX(Pdsds,',')
        Pdsds = SUBSTR(Pdsds,1,II)
        "Alloc DS('"Pdsds"') FI(Outfile) SHR REUSE"
      END;
    ELSE
      IF SUBSTR(Prepared.I,1,4) \= "***--" THEN
        DO;
          QUEUE Prepared.I
          "ExecIO 1 Diskw Outfile"
        END;
      END;
    END;
  "DELSTACK"
  "ExecIO 0 Diskw Outfile (FINIS"
  "Free FI(Outfile)"
  RETURN
  ZZ
  /**-----+
  //STEP02   EXEC PGM=IKJEFT01
  /**-----+
  //SYSPROC DD DSN=JRHJ.QSCAN.INST.CLIST,DISP=(OLD,PASS)
  //SYSTSPRT DD SYSOUT=*
  //CNTLIN DD *
  <DSNLOAD>=DSN810.SDSNLOAD
  <RUNLOAD>=DSN810.RUNLIB.LOAD
  <TRKCLIST>=JRHJ.QSCAN.CLIST
  <TRKLIB>=JRHJ.QSCAN.LIB
  <TRKLOAD>=JRHJ.QSCAN.LOAD
  <TRKCNTL>=JRHJ.QSCAN.CNTL
  <TRKTLST>=JRHJ.QSCAN.TOLIST
  <SSID>=DB8G
  <PLAN>=DSNTIA81
  <ISPSLIB>=ISP.SISPSENU
  <ISPMLIB>=ISP.SISPMENU
  <ISPPLIB>=ISP.SISPPENU
  <ISPTLIB>=ISP.SISPTENU
  //SYSTSIN DD *
  EX ' JRHJ.QSCAN.INST.CLIST'
  //UPLOAD DD DSN=JRHJ.QSCAN1,DISP=SHR
  /**-----+
  //STEP03   EXEC PGM=IKJEFT01
  /**-----+
  //SYSPROC DD DSN=JRHJ.QSCAN.INST.CLIST,DISP=(OLD,PASS)
  //SYSTSPRT DD SYSOUT=*
  //CNTLIN DD *
  <DSNLOAD>=DSN810.SDSNLOAD
  <RUNLOAD>=DSN810.RUNLIB.LOAD
  <TRKCLIST>=JRHJ.QSCAN.CLIST

```

```
<TRKLIB>=JRHH.QSCAN.LIB
<TRKLOAD>=JRHH.QSCAN.LOAD
<TRKCNTRL>=JRHH.QSCAN.CNTRL
<TRKTLST>=JRHH.QSCAN.TOLIST
<SSID>=DB8G
<PLAN>=DSNTIA81
<ISPSLIB>=ISP.SISPSENU
<ISPMLIB>=ISP.SISPMENU
<ISPPLIB>=ISP.SISPPENU
<ISPTLIB>=ISP.SISPTENU
//SYSTSIN DD *
EX 'JRHH.QSCAN.INST.CLIST'
//UPLOAD DD DSN=JRHH.QSCAN2,DISP=SHR

***** Top of Data *****
```

Migrate from Previous Release

Choose option M-Migration if this is the first time you try to install QSCAN product.

```
#MENU

                JRH  Q  S  C  A  N
                For OS/390 and zOS

                Version 1.1
                Release Date: 04/11/2008

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Option ==> M

    0 - Setup Job Card
    I - Initial Installation
    M - Migrates from previous Release of QSCAN
    S - SETUP
    V - View/Maintain Activity Log

                                DATE   - 08/04/13
                                TIME    - 16:55
                                USERID  - JRHJ

PF3=Exit  ENTER=To Process your Option selection
```

Choose M-Migration if you try to migrate from a previous installation.

```
#MENU ----- QSCAN for DB2/OS390 Migration Screen -----

Existing QSCANU0
Installation
REXX EXEC Library   JRHJ.QSCAN.INSTALL

PF3=Exit  ENTER=To Process your Option selection
```

Please enter the **previous QSCANU0 REXX EXEC library name** here to allow installation procedure to copy all system setup files for you. The same installation screen like the one with initial installation option is displayed with all the information copy from previous installation. You can make any changes for the new installation on this screen. After you have done the changes and press Enter key to generate the Migration JCL.

```
#INST-----QSCAN for DB2/OS390 & UDB/zOS Installation Screen-----

QSCAN PC Upload File 1  JRHJ.QSCANU1_____
QSCAN PC Upload File 2  JRHJ.QSCANU2_____
QSCAN PC Upload File 3  JRHJ.QSCANU3_____
QSCAN PC Upload File 4  JRHJ.QSCANU4_____
QSCAN PC Upload File 5  JRHJ.QSCANU5_____
DB2 Load Library        DSN810.SDSNLOAD_____
DB2 User Run Library     DSN810.RUNLIB.LOAD_____
QSCAN CLIST Library      JRHJ.QSCAN.CLIST_____
QSCAN Other Library      JRHJ.QSCAN.LIB_____
QSCAN Load Library       JRHJ.QSCAN.LOAD_____
QSCAN Control Library    JRHJ.QSCAN.CNTL_____
QSCAN Tolist Library     JRHJ.QSCAN.TOLIST_____
QSCAN Dynamic Cntl Lib   JRHJ.QSCAN.DYNCNTL_____
QSCAN Check Point File   JRHJ.QSCAN.CKPTDSN_____
DB2 SubSystem ID         DB8G_____
Plan Name for DSNTIAD    DSNTIA81_____
Default ISPSLIB          SYS1.ISPSLIB_____
Default ISPMLIB          SYS1.ISPMLIB_____
Default ISPPLIB          SYS1.ISPPLIB_____
Default ISPTLIB          SYS1.ISPTLIB_____

PF3=Exit  ENTER=To Process your Option selection
```

Please enter all the fields and proceed to generate Installation JCL:

QSCAN PC Upload File 1, 2, 3, 4, 5	QSCAN Upload file 1 thru 5
DB2 Load Library	DB2 Load Library
DB2 User Run Library	DB2 Run Library where DSNTIAD located
QSCAN CLIST Library	QSCAN CLIST library
QSCAN Other Library	QSCAN Other ISFP library
QSCAN Load Library	QSCAN Load Library
QSCAN Control Library	QSCAN Control Statement Library
QSCAN Tolist Library	QSCAN TOLIST library
QSCAN Dynamic Cntl Lib	QSCAN Dynamic Control Library
QSCAN Check Point File	QSCAN Check Point File
DB2 SubSystem ID	DB2 sub-system ID
Plan Name for DSNTIAD	DSNTIAD Plan Name
Default ISPSLIB	Default ISPFSLIB
Default ISPMLIB	Default ISPMLIB
Default ISPPLIB	Default ISPPLIB
Default ISPTLIB	Default ISPTLIB

After Enter all information and press Enter:

```
Checking PC Upload File 1: JRHJ.QSCANU1.....
Checking PC Upload File 2: JRHJ.QSCANU2.....
Checking PC Upload File 3: JRHJ.QSCANU3.....
Checking PC Upload File 4: JRHJ.QSCANU4.....
Checking PC Upload File 5: JRHJ.QSCANU5.....
Generating QSCAN Installation JCL.....
***
```

Similar JCL like the one generated for Initial Installation as displayed in previous pages.

Submit generated JCL to install all QSCAN libraries

The following steps are for initial installation and Migration JCL:

- STEP00: Allocate All QSCAN Libraries (For initial installation only)
- STEP01: Copy Installation REXX Exec To QSCAN.INST.CLIST
- STEP02: execute QSCAN.INST.CLIST installation REXX exec to install REXX/CLIST library
- STEP03: execute QSCAN.INST.CLIST installation REXX exec to install other ISPF library
- STEP04: execute QSCAN.INST.CLIST installation REXX exec to install QSCAN Control Statement library
- STEP05: execute QSCAN.INST.CLIST installation REXX exec to install QSCAN TOLIST library

```

EDIT          JRHJ.QSCAN.INSTALL(LOG) - 01.00          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** ***** Top of Data *****
000001 ** ----- **
000002 ** Initial Installed At: Date: 04/13/06 Time: 17:21:47 **
000003 (U1) JRHJ.QSCANU1 --> JRHJ.QSCAN.CLIST.N2
000004 (U2) JRHJ.QSCANU2 --> JRHJ.QSCAN.LIB.N2
000005 (U3) JRHJ.QSCANU3 --> JRHJ.QSCAN.LOAD.N2
000006 (U4) JRHJ.QSCANU4 --> JRHJ.QSCAN.CNTL.N2
000007 (U5) JRHJ.QSCANU5 --> JRHJ.QSCAN.TOLIST.N2
000008 ** ----- **
000009 ** Migrated At: Date: 04/11/06 Time: 16:49:08 **
000010 (U1) JRHJ.QSCANU1 --> JRHJ.QSCAN.CLIST.N2
000011 (U2) JRHJ.QSCANU2 --> JRHJ.QSCAN.LIB.N2
000012 (U3) JRHJ.QSCANU3 --> JRHJ.QSCAN.LOAD.N2
000013 (U4) JRHJ.QSCANU4 --> JRHJ.QSCAN.CNTL.N2
000014 (U5) JRHJ.QSCANU5 --> JRHJ.QSCAN.TOLIST.N2
***** ***** Bottom of Data *****

```

Receive QSCAN load modules from QSCANU3

Go to ISPF command Shell and issue RECEIVE command to receive the QSCANU3 file into the newly created QSCAN.LOAD file from step 3.

```
ISPF Command Shell
Enter TSO or Workstation commands below:

===> RECEIVE INDSN('tsoid.QSCANU3')
```

After you press ENTER key, you should have the following displayed.

```
INMR901I Dataset JRHJ.QSCAN.LOAD from JRHJ on ????????
INMR906A Enter restore parameters or 'DELETE' or 'END' +
```

Please enter the following and press ENTER key to receive the QSCANU3 into QSCAN LOAD library.

The example below using 'JRHJ.QSCAN.LOAD' as the QSCAN LOAD library name.

```
dsn('JRHJ.QSCAN.LOAD')
```

```
.
.
.
IGW01550I 2 OF 2 MEMBERS WERE LOADED
IEB1056I RELEASED 1016K ADDITIONAL BYTES.
IEB147I END OF JOB - 0 WAS HIGHEST SEVERITY CODE
INMR001I Restore successful to dataset 'JRHJ.QSCAN.LOAD'
***
```

System Setup

Choose option S-Setup to setup QSCAN environment and system parameter files.

```
#MENU

                JRH  Q  S  C  A  N
                For OS/390 and zOS

                Version 1.1
                Release Date: 04/11/2008

                Licensed To EVALUATION COPY

                JRH GoldenState Software, Inc.
                Web Site: www.jrh-inc.com
                (c) Copyrighted 2006-2008

Option ==> S

    0 - Setup Job Card                      DATE   - 08/04/13
    I - Initial Installation                 TIME    - 16:55
    M - Migrates from previous Release of QSCAN  USERID - JRHJ
    S - SETUP
    V - View/Maintain Activity Log

PF3=Exit  ENTER=To Process your Option selection
```

Setup QSCAN DB2 Table

Select option 0 to setup a QSCAN DB2 extract table which will be used to hold the extract output for QSCAN run.

```
#SETUP ----- QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 0

      0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 06/04/13
      1 - Setup a CNTLIN Control Member                      TIME    - 17:25
      2 - Setup a TOLIST member                               USERID - JRHJ
      3 - Maintain DYNCNTL
      4 - Maintain CKPTDSN
      5 - Generate JRH QSCAN Job

PF3=Exit  ENTER=To Process your Option selection
```

The following JCL will be generated so that you can modify to meet your shop need.

```
EDIT          JRHJ.SPFTEMP1.CNTL                      Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
000001 //JRHJ0  JOB 'ADCD V2R9','SYSPROG',NOTIFY=&SYSUID,REGION=0M
000002 /** ----- JRH QSCAN for OS/390 and zOS -----+
000003 /**                      JRH QSCAN for OS/390 and zOS Version: 1.0
000004 /**                      Release Date: 04/11/2006
000005 /**                      For EVALUATION COPY
000006 /**                      BY   JRH Golden State Software, Inc.
000007 /**                      Copyrighted 2006
000008 /**                      Website: www.jrh-inc.com
000009 /** -----+
000010 //QSCAN   JCLLIB ORDER=JRHJ.QSCAN.LIB.N2
000011 //STEPTRK EXEC $QSCAN,REGION=4M,COND=EVEN
000012 //        PEND
000013 //STEP01  EXEC QSCAN,
000014 //        TRKLOAD='JRHJ.QSCAN.LOAD.N2',
000015 //        DSNLOAD='DSN810.SDSNLOAD',
000016 //        RUNLOAD='DSN810.RUNLIB.LOAD',
000017 //        TRKCLIST='JRHJ.QSCAN.CLIST.N2',
000018 //        ISPSLIB='ISP.SISPSLIB',
000019 //        ISPLIB='ISP.SISPMENU',
000020 //        ISPLIB='ISP.SISPPENU'
000021 //SYSTSIN DD *
000022 DSN S(DB8G)
000023 RUN PROGRAM(DSNTIAD) PLAN(DSNTIA81)
000024 /** -----+
000025 /** SYSIN: contains the DDL for qscan_table if you want to use *
000026 /** DB2 table to keep the result of JRH QSCAN run output *
000027 /** Modify creator, yourdb.yourts below to fit your *
000028 /** specific need. *
000029 /** -----+
000030 //SYSIN DD *
000031 CREATE TABLE "creator"."JRH_QSCAN_TABLE"
000032 (
000033     "JOB_NAME"          CHAR(08)          NOT NULL
000034     ,"JOB_DATE"         DATE              NOT NULL
000035     ,"JOB_TIME"         TIME              NOT NULL
000036     ,"JOB_NO"          CHAR(08)          NOT NULL
000037     ,"SEQ_NO"          SMALLINT          NOT NULL
000038     ,"STEP_NAME"       CHAR(08)          NOT NULL WITH DEFAULT
000039     ,"PROC_STEP"       CHAR(08)          NOT NULL WITH DEFAULT
000040     ,"START_TS"        TIMESTAMP
000041     ,"DURATION"        INTEGER           NOT NULL WITH DEFAULT
```

```

000042 , "CC" CHAR(04) NOT NULL WITH DEFAULT
000043 , "STOP_TS" TIMESTAMP
000044 , "CPU_MIN" INTEGER NOT NULL WITH DEFAULT
000045 , "CPU_SEC" DEC(4,2) NOT NULL WITH DEFAULT
000046 , "SRB_MIN" INTEGER NOT NULL WITH DEFAULT
000047 , "SRB_SEC" DEC(4,2) NOT NULL WITH DEFAULT
000048 , "JOBINFO" VARCHAR(133)
000049 )
000050 IN yourdb.yourts
000051 AUDIT NONE
000052 DATA CAPTURE NONE
000053 CCSID EBCDIC
000054 ; COMMIT;
000055 CREATE TYPE 2 UNIQUE
000056 INDEX "creator"."XQSCAN01"
000057 ON "creator"."JRH_QSCAN_TABLE"
000058 ( "JOB_NAME" ASC
000059 , "JOB_NO" ASC
000060 , "JOB_DATE" ASC
000061 , "JOB_TIME" ASC
000062 , "SEQ_NO" ASC
000063 )
000064 CLUSTER
000065 USING STOGROUP SGJRHJ
000066 PRIQTY 48
000067 SECQTY 48
000068 ERASE NO
000069 FREEPAGE 0
000070 PCTFREE 10
000071 GBPCACHE CHANGED
000072 BUFFERPOOL BP0
000073 CLOSE NO
000074 PIECESIZE 2097152 K
000075 ; COMMIT;
000076 CREATE TYPE 2 UNIQUE
000077 INDEX "creator"."XQSCAN02"
000078 ON "creator"."JRH_QSCAN_TABLE"
000079 ( "JOB_DATE" ASC
000080 , "JOB_NAME" ASC
000081 , "JOB_NO" ASC
000082 , "JOB_TIME" ASC
000083 , "SEQ_NO" ASC
000084 )
000085 USING STOGROUP SGJRHJ
000086 PRIQTY 48
000087 SECQTY 48
000088 ERASE NO
000089 FREEPAGE 0
000090 PCTFREE 10
000091 GBPCACHE CHANGED
000092 BUFFERPOOL BP0
000093 CLOSE NO
000094 PIECESIZE 2097152 K
000095 ; COMMIT;
***** ***** Bottom of Data *****

```

Please modify the [creator, yourdb.yourts, primary and secondary allocation](#) from generated QSCANDDL to creator this DB2 table.

Setup QSCAN CNTLIN Control Input

Select option 1 to setup a QSACN DB2 extract table which will be used to hold the extract output for QSCAN run.

```
#SETUP ----- QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 1

      0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 06/04/13
      1 - Setup a CNTLIN Control Member                      TIME    - 17:25
      2 - Setup a TOLIST member                             USERID - JRHJ
      3 - Maintain DYNCNTL
      4 - Maintain CKPTDSN
      5 - Generate JRH QSCAN Job

PF3=Exit  ENTER=To Process your Option selection
```

```
#SETUPC ----- QSCAN for OS/390 and zOS CNTLIN Setup Menu -----
Option => 1

CNTLIN Dataset Name:  QSCAN.CNTL(ABC002)_____

      1 - Create/Modify a CNTLIN Control Member              DATE    - 06/04/13
      2 - Syntax Check CNTLIN member(s)                     TIME     - 17:29
          Specify a PDS without member name to              USERID  - JRHJ
          Syntax Check ALL MEMBERS
      3 - Check For Parm In Effect
          PREFLEN:      3  (1-8)

PF3=Exit  ENTER=To Process your Option selection
```

```
Command ==>                                     Scroll ==> CSR
==MSG> *-----*
000001 OVRDPARM:
==MSG> *-----*
==MSG> OVRDPARM -Control Member Parm Override for //PARM
==MSG> The following is a list of parameter which can be OVERRIDED:
==MSG>     EXTRACT=ON|OFF
==MSG>     EXTRACT0=extract.output
==MSG>     SPACE_E=cylinders-SPACE(1,10)|tracks-SPACE(pri,sec)
==MSG>     ALERT=ON|OFF
==MSG>     ALERT0=class,external-writer
==MSG>     TOLIST=tolist.PDS
==MSG>     PREFLENT=3|tolist-member-prefix-length
==MSG>     CONSOLE=ON|OFF
==MSG>     SQL=ON|OFF
==MSG>     SQL0=sql.output
==MSG>     SPACE_S=cylinders-SPACE(1,10)|tracks-SPACE(pri,sec)
==MSG>     FTP=ON|OFF
==MSG>     DDNAME=step01.procstep.myreport
==MSG> *-----*
000002
000003 END_OVRDPARM
000004 *
000005 CRIEXTRT:
==MSG> *-----*
==MSG> CRIEXTRT: - END_CRIEXTRT
==MSG> Defines Extract Criteria In Rexx.
==MSG> The Example below extract dataset name with HR.DBA or HH.DBA
==MSG> anywhere on the output line.
==MSG> jobinfo. is a Rexx variable array used to hold the extracted output.
```

```

==MSG> extrt_i is a Rexx variable used to indexes thru jobinfo. array.
==MSG> Any information saved in jobinfo. will be output to EXTRACTO if
==MSG> EXTRACT=ON and to SQL0 if SQL=ON.
==MSG>
==MSG> CRIEXTRT:
==MSG> If (Index(recin,'HR.DBA' ) \= 0 |,
==MSG>      Index(recin,'HH.DBA' ) \= 0 ) Then
==MSG> Do
==MSG>   If substr(recin,1,4) = 'DSN=' Then
==MSG>   Do
==MSG>     extrt_i = extrt_i + 1
==MSG>     Parse value recin with junk1 '=' jobinfo.extrt_i ',' junk2
==MSG>   End
==MSG>   Else
==MSG>   If Index(recin,'IGD107I') \= 0 Then
==MSG>   Do
==MSG>     extrt_i = extrt_i + 1
==MSG>     jobinfo.extrt_i = Word(recin,2)
==MSG>   End
==MSG> End
==MSG> END_CRIEXTRT
==MSG> *-----*
000006
000007 END_CRIEXTRT
000008 *
000009 CRIALERT:
==MSG> *-----*
==MSG> CRIALERT: - END_CRIALERT
==MSG> Defines Alert Criteria in REXX to be used for Alert Process.
==MSG> The following example issues ALERT if cc > 4 or
==MSG>   If Condition Code is Greater Than 4 or
==MSG>   A System Abend S222, S322...
==MSG> Note: Rexx variable - Alert_Message is used to Hold the Alert Message
==MSG>       Call Setup_alert - Rexx Subroutine to actually send Alert
==MSG>
==MSG> CRIALERT:
==MSG> If cc > 4 | Substr(cc,1,1) = 'S' Then
==MSG> Do
==MSG>   Alert_Message = jobnm stepnm 'Condition Code 'cc
==MSG>   Call Setup_alert
==MSG> End
==MSG> END_CRIALERT
==MSG> *-----*
000010 If cc > 4 | Substr(cc,1,1) = 'S' Then
000011 Do
000012   alert_message = jobnm stepnm 'Condition Code 'cc
000013   Call Setup_alert
000014 End
000015 END_CRIALERT
000016 *
000017 ALERTI:
==MSG> *-----*
==MSG> ALERTI: - END_ALERTI
==MSG> Define the ALERT skelten with Substitute variables in {}.
==MSG> Check Substitute Variables for Detail of how to use these Variables.
==MSG> Parameter ALERTI is optional. Parameter ALERTO is required if you
==MSG> define parameter ALERTI.
==MSG>
==MSG> The following example send email thru SMTP
==MSG>
==MSG> ALERTI:
==MSG> HELO your-domain-name.com
==MSG> MAIL FROM:<@sender-domain.name.com:sender-email-address>
==MSG> RCPT TO:<@receiver-domain.name.com:receiver-email-address>
==MSG> or
==MSG> <TOLIST>
==MSG> DATA
==MSG> SUBJECT: Alert for Job {jobnm}-{jobnum} on {jobdate} {jobtime}
==MSG> END_ALERTI
==MSG> *-----*
000018 HELO your-domain-name.com
000019 MAIL FROM:<@sender-domain.name.com:sender-email-address>
000020 <TOLIST>
000021 DATA
000022 SUBJECT: Alert for Job {jobnm}-{jobnum} on {jobdate} {jobtime}

```

```

000023 END_ALERTI
000024 *
000025 SQLI:
==MSG> *-----*
==MSG> SQLI: - END_SQLI
==MSG> Define INSERT sql skelten parameter with substitute
==MSG> variable in {}. The information is a list of all
==MSG> the availabe substitute variable.
==MSG> This parameter is optional. SQL0 option is required if you
==MSG> define this SQLI parameter.
==MSG> A DB2 table need to be defined which can include some
==MSG> of the following columns:
==MSG>
==MSG>     JOB_NAME
==MSG>     JOB_DATE
==MSG>     JOB_TIME
==MSG>     JOB_NO
==MSG>     SEQ_NO
==MSG>     STEP_NAME
==MSG>     PROC_STEP
==MSG>     START_TS
==MSG>     STOP_TS
==MSG>     DURATION
==MSG>     CC
==MSG>     CPU_MIN
==MSG>     CPU_SEC
==MSG>     SRB_MIN
==MSG>     SRB_SEC
==MSG>     JOBINFO
==MSG>
==MSG> Modify QSCANDDL in this library to define this table.
==MSG>
==MSG> SQLI:
==MSG> INSERT INTO my.table
==MSG> (JOB_NAME, JOB_DATE, JOB_TIME, JOB_NO,
==MSG>  SEQ_NO, STEP_NAME, PROC_STEP,
==MSG>  START_TS, STOP_TS,
==MSG>  DURATION, CC,
==MSG>  CPU_MIN, CPU_SEC, SRB_MIN, SRB_SEC,
==MSG>  JOBINFO)
==MSG> VALUES
==MSG> ('{jobnm}', '{jobdate}', '{jobtime}', '{jobnum}',
==MSG>  {seqno}, '{stepnm}', '{procstep}',
==MSG>  {startm}, {stoptm},
==MSG>  {duration}, '{cc}',
==MSG>  {cpum}, {cpus}, {srbm}, {srbs},
==MSG>  {jobinfo})
==MSG> ); COMMIT;
==MSG> END_SQLI
==MSG> *-----*
000026 INSERT INTO my.table
000027 (JOB_NAME, JOB_DATE, JOB_TIME, JOB_NO,
000028  SEQ_NO, STEP_NAME, PROC_STEP,
000029  START_TS, STOP_TS,
000030  DURATION, CC,
000031  CPU_MIN, CPU_SEC, SRB_MIN, SRB_SEC,
000032  JOBINFO)
000033 VALUES
000034 ('{jobnm}', '{jobdate}', '{jobtime}', '{jobnum}',
000035  {seqno}, '{stepnm}', '{procstep}',
000036  {startm}, {stoptm},
000037  {duration}, '{cc}',
000038  {cpum}, {cpus}, {srbm}, {srbs},
000039  {jobinfo})
000040 ); COMMIT;
000041 END_SQLI
000042 *
000043 CRIFTP:
==MSG> *-----*
==MSG> CRIFTP: Defines the FTP Criteria in Rexx to be used for FTP process
==MSG>          The example below pull DB2 Quiesce Point from output and
==MSG>          Sent it thru FPT.
==MSG>
==MSG> Note:
==MSG> Use Recin for all lines from output queue with qualified DD
==MSG> Use RecinD for all lines from output queue with qualified DD

```

```

==MSG>          except for JESMSG LG and JESYSMSG.
==MSG>          Use  ftp_output      to hold the information to be sent thru FTP
==MSG>          Use  Call Setup_FTP  to issue FTP Command
==MSG>
==MSG>  CRIFTP:
==MSG>  If Index(RecinD, 'DSNU474I') \= 0 Then
==MSG>  Do
==MSG>      Parse Value RecinD with junk1 'RBA' ws_rba 'AND' junk2
==MSG>      ftp_output = jobnm jobnum "Quieses At RBA:" ws_rba
==MSG>      Call Setup_FTP
==MSG>  End
==MSG>  END_CRIFTP
==MSG> *-----*
000044 END_CRIFTP
000045 *
000046 FTTPARM:
==MSG> *-----*
==MSG>  FTTPARM  FTP Parameter
==MSG>      1st record: FTP Parm Sever ID information, leave it blank
==MSG>                  if No FTP parm required.
==MSG>      2nd record: open statement
==MSG>      3rd record: UserID Pswd
==MSG>      4th+      : Any FTP command which include at lease one FTP put.
==MSG>                  The source file of the LAST put is used as the output
==MSG>                  file to hold the FTP information which meet the
==MSG>                  criterias defined under CRIFTP.
==MSG>
==MSG>  Note: A FTP put command is required
==MSG>        The dataset name used to hold the FTP output can be {vvv}
==MSG>        Substitute Variable.
==MSG>        Where {vvv} can be one of the following:
==MSG>            {jobnm}   Job Name
==MSG>            {jobnum}  Job Number
==MSG>            {cdate()} Current Date in Dyyymmdd
==MSG>            {ctime()} Current Time in Thhmmss
==MSG>
==MSG>  FTTPARM:
==MSG>  SERVER_ID 21 (TIMEOUT 20
==MSG>  open dev1
==MSG>  jrhj xxxxxx
==MSG>  ls -lai
==MSG>  put 'jrhj.qscan.ftp.{cdate()}.{jobnm}.{ctime()}' {jobnm}
==MSG>  ls -lai
==MSG>  quit
==MSG>  END_FTTPARM
==MSG> *-----*
000047 END_FTTPARM
***** ***** Bottom of Data *****

```

JRH QSCAN Reference Manual

Use option 2 to check the syntax of your CNTLIN information.

```
#SETUPC ----- QSCAN for OS/390 and zOS CNTLIN Setup Menu -----
Option => 2

CNTLIN Dataset Name:  QSCAN.CNTL(ABC002)_____

  1 - Create/Modify a CNTLIN Control Member          DATE   - 06/04/13
  2 - Syntax Check CNTLIN member(s)                 TIME   - 17:29
      Specify a PDS without member name to          USERID - JRHJ
      Syntax Check ALL MEMBERS
  3 - Check For Parm In Effect
      PREFLEN:      3  (1-8)

PF3=Exit  ENTER=To Process your Option selection
```

You can check both in online or batch mode.

```
#SCHECK ----- QSCAN for OS/390 and zOS Syntax Check Screen -----

CNTLIN Dataset Name:  QSCAN.CNTL(ABC002)_____

Process Mode:
  (B)atch
  (O)nline      0   (O or B)
    For Online
    Edit If Error Y   (Y or N)

PF3=Exit  ENTER=To Process your Option selection
```

Result from the online syntax check for a single member.

```
**-----**
**          JRH QSCAN for OS/390 and zOS Syntax Check          **
**          By JRH GoldenState Software, Inc.                  **
**          (c) Copyrighted 2006                                **
**-----**
** ..MSG    No Error Found for QSCAN.CNTL.N(ABC002)            **
**-----**
***
**-----**
**          JRH QSCAN for OS/390 and zOS Syntax Check          **
**          By JRH GoldenState Software, Inc.                  **
**          (c) Copyrighted 2006                                **
**-----**
** ..MSG    No Error Found for QSCAN.CNTL.N(ABC002)            **
**-----**
```

JRH QSCAN Reference Manual

You can do syntax check for all members of a PDS.

<pre>#SCHECK ----- QSCAN for OS/390 and zOS Syntax Check Screen ----- CNTLIN Dataset Name: QSCAN.CNTL_____ Process Mode: (B)atch (O)nline 0 (O or B) For Online Edit If Error Y (Y or N) PF3=Exit ENTER=To Process your Option selection</pre>
--

Result of all member syntax check.

<pre>**-----** ** JRH QSCAN for OS/390 and zOS Syntax Check ** ** By JRH GoldenState Software, Inc. ** ** (c) Copyrighted 2006 ** **-----** ** ..MSG No Error Found for QSCAN.CNTL.N(ABC) ** **-----** ** ..MSG No Error Found for QSCAN.CNTL.N(ABC001) ** **-----** ** ..MSG No Error Found for QSCAN.CNTL.N(ABC002) ** **-----** ** ..MSG No Error Found for QSCAN.CNTL.N(DEFAULT) ** **-----**</pre>

The following example create a CNTLIN member ABC002 with CRIALERT, ALERTI, and SQLI.

```
#SETUPC ----- QSCAN for OS/390 and zOS CNTLIN Setup Menu -----
Option => 3

CNTLIN Dataset Name:  SCAN.CNTL(ABC002)_____

    1 - Create/Modify a CNTLIN Control Member          DATE   - 06/04/13
    2 - Syntax Check CNTLIN member(s)                 TIME    - 17:29
        Specify a PDS without member name to         USERID - JRHJ
        Syntax Check ALL MEMBERS

    3 - Check For Parm In Effect
        PREFLEN:      3  (1-8)

PF3=Exit  ENTER=To Process your Option selection
```

```
EDIT          SYSADM.QSCAN.CNTL.N(ABC002) - 01.00          Columns 00001 00072
Command ==>                                           Scroll ==> CSR
***** ***** Top of Data *****
==MSG> ** No OVRDPARM:-END_OVRDPARM
==MSG> ** No CRIEXTRT:-END_CRIEXTRT
==MSG> * -----*
==MSG> * From 'SYSADM.QSCAN.CNTL.N(ABC002)' *
==MSG> * -----*
=NOTE= CRIALERT:
=NOTE= If cc > 4 | Substr(cc,1,1) = 'S' Then
=NOTE= Do
=NOTE=     alert_message = jobnm stepnm 'Condition Code 'cc
=NOTE=     Call Setup_alert
=NOTE= End
=NOTE= END_CRIALERT
==MSG> * -----*
==MSG> * From 'SYSADM.QSCAN.CNTL.N(ABC002)' *
==MSG> * -----*
=NOTE= ALERTI:
=NOTE= MAIL FROM:<@sender-domain.name.com:sender-email-address>
=NOTE= <TOLIST>
=NOTE= DATA
=NOTE= SUBJECT: Alert for Job {jobnm}-{jobnum} on {jobdate} {jobtime}
=NOTE= END_ALERTI
==MSG> * -----*
==MSG> * From 'SYSADM.QSCAN.CNTL.N(ABC002)' *
==MSG> * -----*
=NOTE= SQLI:
=NOTE= INSERT INTO my.table
=NOTE= (JOB_NAME, JOB_DATE, JOB_TIME, JOB_NO,
=NOTE= SEQ_NO, STEP_NAME, PROC_STEP,
=NOTE= START_TS, STOP_TS,
=NOTE= DURATION, CC,
=NOTE= CPU_MIN, CPU_SEC, SRB_MIN, SRB_SEC,
=NOTE= JOBINFO)
=NOTE= VALUES
=NOTE= ('{jobnm}','{jobdate}','{jobtime}','{jobnum}',
=NOTE= {seqno},'{'stepnm}','{'procstep}',
=NOTE= {starttm},{stoptm},
=NOTE= {duration},'{'cc}',
=NOTE= {cpum},{cpus},{srbm},{srbs},
=NOTE= {jobinfo})
=NOTE= ); COMMIT;
=NOTE= END_SQLI
==MSG> ** No CRIFTP:-END_CRIFTP
==MSG> ** No FTTPARM:-END_FTTPARM
000001 OVRDPARM:
000002
000003 END_OVRDPARM
000004 *
```

```

000005 CRIEXTRT:
000006
000007 END_CRIEXTRT
000008 *
000009 CRIALERT:
000010 If cc > 4 | Substr(cc,1,1) = 'S' Then
000011 Do
000012     alert_message = jobnm stepnm 'Condition Code 'cc
000013     Call Setup_alert
000014 End
000015 END_CRIALERT
000016 *
000017 ALERTI:
000018 HELO your-domain-name.com
000019 MAIL FROM:<@sender-domain.name.com:sender-email-address>
000020 <TOLIST>
000021 DATA
000022 SUBJECT: Alert for Job {jobnm}-{jobnum} on {jobdate} {jobtime}
000023 END_ALERTI
000024 *
000025 SQLI:
000026 INSERT INTO my.table
000027 (JOB_NAME, JOB_DATE, JOB_TIME, JOB_NO,
000028  SEQ_NO, STEP_NAME, PROC_STEP,
000029  START_TS, STOP_TS,
000030  DURATION, CC,
000031  CPU_MIN, CPU_SEC, SRB_MIN, SRB_SEC,
000032  JOBINFO)
000033 VALUES
000034 ('{jobnm}', '{jobdate}', '{jobtime}', '{jobnum}',
000035  {seqno}, '{stepnm}', '{procstep}',
000036  {startm}, {stoptm},
000037  {duration}, '{cc}',
000038  {cpum}, {cpus}, {srbm}, {srbs},
000039  {jobinfo})
000040 ); COMMIT;
000041 END_SQLI
000042 *
000043 CRIFTP:
000044 END_CRIFTP
000045 *
000046 FTPPARM:
000047 END_FTPPARM
***** ***** Bottom of Data *****

```

Setup QSCAN TOLIST for Alert Process

Select option 2 to setup QSACN TOLIST control information for QSCAN Alert process.

```
#SETUP ----- QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 2

      0 - Setup DB2 table to Hold QSCAN Extract Data      DATE   - 06/04/13
      1 - Setup a CNTLIN Control Member                  TIME   - 17:25
      2 - Setup a TOLIST member                          USERID - JRHJ
      3 - Maintain DYNCNTL
      4 - Maintain CKPTDSN
      5 - Generate JRH QSCAN Job

PF3=Exit  ENTER=To Process your Option selection
```

```
#SETUPT ----- QSCAN for OS/390 and zOS Setup TOLIST Menu -----
Option => 1

TOLIST Dataset Name:  QSCAN.TOLIST_____

      1 - Create/Modify a TOLIST Control Member          DATE   - 06/04/19
      2 - Check For Parm In Effect                      TIME   - 17:21
      PREFLENT:      3  (1-8)                          USERID - SYSADM

PF3=Exit  ENTER=To Process your Option selection
```

The members delivered with QSCAN are listed below.

```
Command ==> s ABC002                                Scroll ==> CSR
Name      Prompt      Size      Created      Changed      ID
. ABC
. ABC001
. DEFAULT
**End**
```

Select a new member ABC002 and the following screen is displayed. Modify the content and save and return back to previous screen.

```
Command ==>                                     Scroll ==> CSR
***** ***** Top of Data *****
==MSG> *-----*
==MSG>   Please Enter RCPT TO information as follows:
==MSG>
==MSG>   RCPT TO:<@receiver-domain.name.com:receiver-email-address>
==MSG>
==MSG>   You can Enter as many as 250 RCPT TO lines here
==MSG> *-----*
000001 RCPT TO:<@www.jrh-inc.com:rdoong@jrh-inc.com>
***** ***** Bottom of Data *****
```

```
#SETUPT ----- QSCAN for OS/390 and zOS Setup TOLIST Menu -----
Option => 2

TOLIST Dataset Name: QSCAN.TOLIST(ABC002)_____

  1 - Create/Modify a TOLIST Control Member          DATE   - 06/04/19
                                           TIME   - 17:21
  2 - Check For Parm In Effect                      USERID - SYSADM
    PREFLENT:      3 (1-8)

PF3=Exit  ENTER=To Process your Option selection
```

```
Command ==>                               Scroll ==> CSR
***** ***** Top of Data *****
==MSG> ** All SMTP RCPT TO Receiver Addresses are Displayed Below:
==MSG> ** -----*
==MSG> ** From 'SYSADM.QSCAN.TOLIST.N(ABC002)'
==MSG> ** -----*
=NOTE= RCPT TO:<@www.jrh-inc.com:rdoong@jrh-inc.com>
==MSG> ** -----*
==MSG> ** From 'SYSADM.QSCAN.TOLIST.N(ABC)'
==MSG> ** -----*
=NOTE= RCPT TO:<@jrh_mvs_b.jrh-inc.com:jdoong@db2i2.com>
=NOTE= RCPT TO:<@jrh_mvs_b.jrh-inc.com:jxoong@db2i2.com>
==MSG> ** -----*
==MSG> ** From 'SYSADM.QSCAN.TOLIST.N(DEFAULT)'
==MSG> ** -----*
=NOTE= RCPT TO:<@jrh_mvs_b.jrh-inc.com:jdoong@jrh-inc.com>
000001 RCPT TO:<@www.jrh-inc.com:rdoong@jrh-inc.com>
***** ***** Bottom of Data *****
```

Maintain DYNCNTL

Select option 3 to maintain DYNCNTL information.

```
#SETUP ----- QSCAN for OS/390 and zOS Setup Menu -----
Option ==>3

      0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 06/04/13
      1 - Setup a CNTLIN Control Member                      TIME    - 17:25
      2 - Setup a TOLIST member                               USERID - JRHJ
      3 - Maintain DYNCNTL
      4 - Maintain CKPTDSN
      5 - Generate JRH QSCAN Job

PF3=Exit  ENTER=To Process your Option selection
```

The following displayed screen allows you to enter DYNCNTL dataset name to dynamically control some options when JRH QSCAN is running. The default dataset is the dataset used during the installation.

```
#SETUP ----- JRH QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 3

      0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 08/04/09
      1 - Setup a CNTLIN Control Member                      TIME    - 19:10
E=====N
e #SETUPD ----- JRH QSCAN for OS/390 and zOS DYNCNTL Update Menu ----- e
e                                                                 e
e DYNCNTL Dsname: 'JRHJ.QSCAN.DYNCNTL(QSCANR)' _____ e
e                                                                 e
e                                                                 e
e PF3=Exit  ENTER=To Process your Option selection e
E=====e
```

After the desired dataset is selected, the following screen is displayed to allow you set the following control options when the JRH QSCAN is running (The information need to be on the same one line:

- o TRACE=ON turn on trace
- o TRACE=OFF turn off trace
- o WAIT=hhmmss
- o STOP=yy/mo/dd-hh:mm:ss or STOP=Y

```
EDIT      DB2ADM.QSCAN.DYNCNTL(QSCANR) - 01.04          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** ***** Top of Data *****
==MSG> *-----*
==MSG> DYNCNTL options:
==MSG>
==MSG> TRACE=ON          Dynamically Turn ON Trace
==MSG> TRACE=OFF        Dynamically Turn OFF Trace
==MSG> WAIT=hhmmss      Dynamically Change Wait Cycle
==MSG>                hh: 00-24 mm: 00-60 ss: 00-60
==MSG> STOP=Y          Dynamically STOP QSCAN Right Away
==MSG> STOP=yy/mo/dd-hh:mm:ss Dynamically Change STOP time
==MSG>                yy: 00-99 mo: 01-12 dd: 01-31
==MSG>                hh: 00-24 mm: 00-60 ss: 00-60
==MSG>
==MSG> Modify or Add ONE line of DYNCNTL option as listed Above.
==MSG> For Example,
==MSG> TRACE=ON WAIT=003000 STOP=09/06/01-17:00:00
==MSG> *-----*
000001 TRACE=OFF STOP=09/03/20-19:00:00 WAIT=000010
***** ***** Bottom of Data *****
```

Maintain CKPTDSN

Select option 4 to maintain CKPTDSN information.

```
#SETUP ----- QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 4

      0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 06/04/13
      1 - Setup a CNTLIN Control Member                      TIME    - 17:25
      2 - Setup a TOLIST member                               USERID - JRHJ
      3 - Maintain DYNCNTL
      4 - Maintain CKPTDSN
      5 - Generate JRH QSCAN Job

PF3=Exit  ENTER=To Process your Option selection
```

The following displayed screen allows you to enter DYNCNTL dataset name to dynamically control some options when JRH QSCAN is running. The default dataset is the dataset used during the installation.

```
#SETUP ----- JRH QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 4

      0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 08/04/09
      1 - Setup a CNTLIN Control Member                      TIME    - 19:10
E=====N
e #SETUPCK ----- JRH QSCAN for OS/390 and zOS CKPTDSN Inq/Update Menu -e
e
e DYNCNTL D$name: 'JRHJ.QSCAN.CKPTDSN(QSCANE)' _____e
e
e
e PF3=Exit  ENTER=To Process your Option selectione
E=====e
```

After the desired dataset is selected, the following screen is displayed to allow you to modify or inquiry the status of the running JRH QSCAN information. Change this information will affect the starting point of the next QSCAN cycle. The following is the job of a QTYPE=EXECUTION check point file layout. It contains:

- o Jobname
- o Job number
- o Start line number
- o Date and time of the scanning job

```
EDIT          DB2ADM.QSCAN.CKPTDSN(QSCANE) - 01.00          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** Top of Data *****
000001 DB9GMSTR STC01050 00000062 2008 03 20 16.45.56
000002 DB8GMSTR STC01046 00000326 2008 03 20 16.45.13
***** Bottom of Data *****
```

For a QTYPE=PRINT check point file, the check point file will contains only job name and job number.

```
#SETUP ----- QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 1

0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 06/04/13
1 - Setup a CNTLIN Control Member                       TIME    - 17:25
2 - Setup a TOLIST member                               USERID - JRHJ
3 - Maintain DYNCNTL
4 - Maintain CKPTDSN
5 - Generate JRH QSCAN Job

PF3=Exit  ENTER=To Process your Option selection
```

```
#SETUP ----- JRH QSCAN for OS/390 and zOS Setup Menu -----
Option ==> 5

0 - Setup DB2 table to Hold QSCAN Extract Data          DATE   - 08/04/09
1 - Setup a CNTLIN Control Member                      TIME   - 19:53
2 - Setup a TOLIST member                               USERID - DB2ADM
3 EsaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaNs
4 e #GENJOB ----- JRH QSCAN for OS/390 and zOS GENJOB Menu ---- e
5 e Option =>                                           e
e                                                         e
e      1.- Generate a JCL skelten for Current Job      e
e      2.- Generate a JCL skelten for EXECUTION Job    e
e      3.- Generate a JCL skelten for PRINT Job        e
e                                                         e
e                                                         e
e PF3=Exit ENTER=To Process your Option selection      e
DsaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaNs

PF3=Exit ENTER=To Process your Option selection
```

Select 1 and the following JCL for current job is generated. Modify the option parameters before you submit this QSCAN job for process.

```
//JRHH01 JOB (ACCT),'DB2I2 AD',
//          NOTIFY=&SYSUID,COND=(0,NE),REGION=4M,
//          CLASS=A,MSGCLASS=H
//* -----**** JRH QSCAN for OS/390 and zOS ****-----+
//*          JRH QSCAN for OS/390 and zOS Version: 1.1
//*          Release Date: 04/09/2008
//*          For EVALUATION COPY
//*          BY JRH Golden State Software, Inc.
//*          Copyrighted 2006-2008
//*          Website: www.jrh-inc.com
//* -----+
//QSCAN    JCLLIB ORDER='JRHH.QSCAN.LIB'
//STEP01   EXEC $QSCAN,REGION=4M,COND=EVEN,
//          TRKLOAD='JRHH.QSCAN.LOAD',
//          DSNLOAD='DSN810.SDSNLOAD',
//          RUNLOAD='DSN810.RUNLIB.LOAD',
//          TRKCLIST='JRHH.QSCAN.CLIST',
//          ISPSLIB='ISP.SISPSENU',
//          ISPMLIB='ISP.SISPMENU',
//          ISPLLIB='ISP.SISPPENU',
//          ISPTLIB='ISP.SISPTENU'
//SYSTSIN DD *
ISPSTART CMD(QSCAN)
//* ----- *
//* Please Change the content of the following DD names
//* ----- *
//* DDNAME      Description
//* ----- *
//* PARM         QSCAN Control Parameter                      (Required)
//* ----- *
//* PARM:  Process Parameters
//*        (Required Parameters)
//*        CNTLIN=cntlin.PDS
//*        DYNCNTL=dyncntl.dsname
//*        PREFLEN=3|# Where # between 0 and 8
//*
//*        (Optional Parameters)
//*        ERROR=ABEND|CONT
//*        DDNAME=stepnm.procstep.ddname,...|*
//*        DDNMONLY
//*
//*        (Optional Extract Parameters)
//*        EXTRACT=ON|OFF
//*        EXTRACT0=extract.output.dsname
//*        SPACE_E=cylinders-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
//*
//*        (Optional Parameters for ALERT Process)
//*        ALERT=OFF|ON
//*        ALERT0=class,external-writer
//*        TOLIST='JRHH.QSCAN.TOLIST'
//*        PREFLENT=3|# Where # between 1 and 8
//*        CONSOLE=OFF|ON
//*
//*        (Optional Parameters for SQL INSERT Interface)
//*        SQL=OFF|ON
//*        SQL0=sql.output.dsname
//*        SPACE_S=cylinders-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
//*        TBLNAME=JRHH.qscan_table
//*        SSID=ssid
//*        DSNTIAD=dsntiad
//*        SQLEXEC=ON|OFF
//*        SQLERR=CONT
//*
//*        (Optional Parameters for FTP Interface)
//*        FTP=OFF|ON
//*        SPACE_F=tracks-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
//* ----- *
//*          CNTLIN=control.PDSame      CNTLIN used to specify the
//*                                     control.dsname. This parameter
//*                                     is REQUIRED.
//*
```

```

/**      DDNAME=*          All DDnames
/**      QSCAN scans thru all output
/**      DDNAME in the output queue.
/**
/**      DDNAME=stepnm.procstep.ddname,...
/**      is the optional DDNAME list
/**      it narrow down the output
/**      result set only to those
/**      ddname.
/**      If no DDNAME entered,
/**      JESMSGLG,JESYSMSG will be
/**      the only 2 DDname used.
/**
/**      DDNMONLY          Use DDnames specified under DDNAME=
/**      only. Usually used with QTYPE=EXECU
/**      together with DDNAME=..JESMSGLG
/**
/**      SQL0=sql.output    Save INSERT SQL output to
/**      a dataset - sql.output.
/**
/**      ALERTO=C,W        Specify ALERT Output Class
/**      and External Writer
/**      (W - use SMTP for SMTP
/**      interface)
/**
/**      CONSOLE=OFF|ON    Sending Alert Message to
/**      System Console.
/**
/**      ERROR=CONT        For CRITEXTRT,CRITALERT and CRITFTP
/**      criteria process, if there is an
/**      error,QSCAN will stop with an Abend
/**      Specify ERROR=CONT will skip syntax
/**      error for the selected jobs and
/**      continue processing qualified jobs.
/** ----- *
/** PARM DD DATA,DLM=PP
/** CNTLIN=' JRHJ.QSCAN.CNTL '
/** DYNCNTL=' JRHJ.QSCAN.DYNCNTL '
/** PREFLEN=3
/** DDNAME=stepnm.procstep.ddname,...
*
EXTRACT=OFF
  EXTRACTO=' JRHJ.qscan.extract.{cdate()}.{ctime()}'
  SPACE_E=cylinders-SPACE(1,10)
*
SQL=OFF
  SQL0=' JRHJ.qscan.sql.{cdate()}.{ctime()}'
  SPACE_S=cylinders-SPACE(1,10)
  TBLNAME=JRHJ.qscan_table
  SSID=DB8G
  DSNTIAD=dsntiad
  SQLEXEC=ON
  SQLERR=CONT
*
ALERT=ON
  ALERTO=P,SMTP
  TOLIST=' JRHJ.QSCAN.TOLIST '
  PREFLENT=3
  CONSOLE=OFF
*
FTP=OFF
  SPACE_F=tracks-SPACE(1,10)
PP

```

Select option 2 to generate JRH QSCAN job for the QTYPE=EXECUTION.

```
//JRHO01 JOB (ACCT),'DB2I2 AD',
//          NOTIFY=&SYSUID,COND=(0,NE),REGION=4M,
//          CLASS=A,MSGCLASS=H
//* -----**** JRH QSCAN for OS/390 and zOS ****-----+
//*          JRH QSCAN for OS/390 and zOS Version: 1.1
//*          Release Date: 04/09/2008
//*          For EVALUATION COPY
//*          BY JRH Golden State Software, Inc.
//*          Copyrighted 2006-2008
//*          Website: www.jrh-inc.com
//* -----+
//QSCAN    JCLLIB ORDER='JRHO.QSCAN.LIB'
//STEP01   EXEC $QSCAN,REGION=4M,COND=EVEN,
//          TRKLOAD='JRHO.QSCAN.LOAD',
//          DSNLOAD='DSN810.SDSNLOAD',
//          RUNLOAD='DSN810.RUNLIB.LOAD',
//          TRKCLIST='JRHO.QSCAN.CLIST',
//          ISPSLIB='ISP.SISPSENU',
//          ISPMLIB='ISP.SISPMENU',
//          ISPPLIB='ISP.SISPPENU',
//          ISPTLIB='ISP.SISPTENU'
//SYSTSIN DD *
ISPSTART CMD(QSCAN)
//* -----*
//* Please Change the content of the following DD names
//* -----*
//* DDNAME      Description
//* -----*
//* PARM        QSCAN Control Parameter                      (Required)
//* -----*
//* JOBINFOI    If Specified, contain information from output queue
//*              in the following Format:
//*              jobname jobno
//*              Ex.
//*              *          select all jobs in Job Queue
//*              ABC*       select all jobs with ABC* in job Queue
//*              A B        select Job A with Jobno B
//* -----*
//* PARM:       Process Parameters
//*              (Required Parameters)
//*              CNTLIN=cntlin.PDS
//*              CKPTDSN=ckpt.dsname|ckpt.dsname,INITIALIZE|OFF
//*              DYNCNTL=dyncntl.dsname
//*              PREFLEN=3|# Where # between 0 and 8
//*              QTYPE=PRINT|EXECUTION
//*
//*              (Optional Parameters)
//*              WAIT=hhmmss Where hh (00-24) mm (00-60) ss (00-60)
//*              STOP=yy/mm/dd-hh:mm:ss Where yy (00-99) mm (00-60) ss (00-60)
//*              TRACE=ON|OFF
//*              ERROR=ABEND|CONT
//*              DDNAME=stepnm.procstep.ddname,...|*
//*              DDNMONLY
//*              RESUME=OFF|ON
//*
//*              (Optional Extract Parameters)
//*              EXTRACT=ON|OFF
//*              EXTRACT0=extract.output.dsname
//*              SPACE_E=cylinders-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
//*
//*              (Optional Parameters for ALERT Process)
//*              ALERT=OFF|ON
//*              ALERT0=class,external-writer
//*              TOLIST='JRHO.QSCAN.TOLIST'
//*              PREFLENT=3|# Where # between 1 and 8
//*              CONSOLE=OFF|ON
//*
//*              (Optional Parameters for SQL INSERT Interface)
//*              SQL=OFF|ON
//*              SQL0=sql.output.dsname
//*              SPACE_S=cylinders-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
//*              TBLNAME=JRHO.qscan_table
```

```

/**      SSID=ssid
/**      DSNTIAD=dsntiad
/**      SQLEXEC=ON|OFF
/**      SQLERR=CONT
/**
/**      (Optional Parameters for FTP Interface)
/**      FTP=OFF|ON
/**      SPACE_F=tracks-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
/**      ----- *
/**      CNTLIN=control.PDSame      CNTLIN used to specify the
/**                                control.dsname. This parameter
/**                                is REQUIRED.
/**
/**      QTYPE=PRINT                For qualified OUTPUT Queue jobs
/**      QTYPE=EXECUTION            For qualified Active Executing jobs
/**                                Default if not specify is QTYPE=PRI
/**
/**      RESUME=ON                  To resume from last processed point
/**                                Should be used for QTYPE=EXECUTION
/**                                It is the default for QTYPE=EXECUTI
/**      RESUME=OFF                 To start from the beginning of the
/**                                Should be used for QTYPE=PRINT
/**                                It is the default for QTYPE=PRINT
/**      DDNAME=*                   All DDnames
/**                                QSCAN scans thru all output
/**                                DDNAME in the output queue.
/**
/**      DDNAME=stepnm.procstep.ddname,...
/**                                is the optional DDNAME list
/**                                it narrow down the output
/**                                result set only to those
/**                                ddname.
/**                                If no DDNAME entered,
/**                                JESMSG LG,JESYSMSG will be
/**                                the only 2 DDname used.
/**
/**      DDNMONLY                   Use DDnames specified under DDNAME=
/**                                only. Usually used with QTYPE=EXECU
/**                                together with DDNAME=..JESMSG LG
/**
/**      SQL0=sql.output            Save INSERT SQL output to
/**                                a dataset - sql.output.
/**
/**      ALERTO=C,W                 Specify ALERT Output Class
/**                                and External Writer
/**                                (W - use SMTP for SMTP
/**                                interface)
/**
/**      CONSOLE=OFF|ON             Sending Alert Message to
/**                                System Console.
/**
/**      WAIT=hhmmss                Wait period. Wherehh (00-24) hours
/**                                mm(00-60) minutes ss (00-60) second
/**                                Default, if not specified,
/**                                will scan once and then end.
/**
/**      STOP=yy/mm/dd-hh:mm:ss     Stop at specified date and time
/**
/**      TRACE=ON|OFF               Turn ON or OFF Trace
/**
/**      ERROR=CONT                 For CRITEXTRT,CRITALERT and CRITFTP
/**                                criteria process, if there is an
/**                                error,QSCAN will stop with an Abend
/**                                Specify ERROR=CONT will skip syntax
/**                                error for the selected jobs and
/**                                continue processing qualified jobs.
/**
/**      CKPTDSN=ckpt.dsname|ckpt.dsname,INITISLIZE|OFF
/**                                Check Point dsname contains last
/**                                processed Job information. It is
/**                                a required parameter if //JOBINFO
/**                                is used.
/**                                Specify CKPTDSN=ckpt.dsname to
/**                                to process from last check points
/**                                Specify

```

```

/**          CKPTDSN=ckpt.dsname,INITIALIZE
/**          to process all qualified jobs
/**          the first cycle and then process
/**          from last check point begining
/**          from the second cycle.
/**          Specify CKPTDSN=OFF
/**          to turn off the last job check and
/**          scan all qualified jobs for
/**          all cycles.
/** ----- *
//PARM DD DATA,DLM=PP
CNTLIN=' JRHJ.QSCAN.CNTL '
CKPTDSN=' JRHJ.QSCAN.CKPTDSN',INITIALIZE
DYNCNTL=' JRHJ.QSCAN.DYNCNTL '
WAIT=000500
STOP=08/04/09-20:55:54
PREFLEN=3
QTYPE=EXECUTION
DDNAME=..JESMSGLG
DDNMONLY
RESUME=ON
*
EXTRACT=ON
  EXTRACT0='JRHJ.qscan.extract.{cdate()}.{ctime()}'
  SPACE_E=cylinders-SPACE(1,10)
*
SQL=ON
  SQLO='JRHJ.qscan.sql.{cdate()}.{ctime()}'
  SPACE_S=cylinders-SPACE(1,10)
  TBLNAME=JRHJ.qscan_table
  SSID=DB8G
  DSNTIAD=dsntiad
  SQLEXEC=ON
  SQLERR=CONT
*
ALERT=ON
  ALERT0=P,SMTP
  TOLIST='JRHJ.QSCAN.TOLIST'
  PREFLENT=3
  CONSOLE=OFF
*
FTP=ON
  SPACE_F=tracks-SPACE(1,10)
PP
/** ----- *
/** JOBINFOI: Used this file to define a list of output job  queue
/**          job list. The format of the file is
/**          jobname jobno
/**          Ex.
/**          *          Select all jobs in Job Queue
/**          ABC*       Select all jobs with ABC* in job Queue
/**          A.B        Select Job A with Jobno B
/**
/**          Skip JOBINFOI DD directs JRH QSCAN to process
/**          Current Job from Job Queue.
/** ----- *
//JOBINFOI DD DATA,DLM=JJ
your-jobname
JJ

```

JRH QSCAN Reference Manual

Select option 3 to generate JRH QSCAN QTYPE=PRINT.

```
//JRHO1 JOB (ACCT),'DB2I2 AD',
//          NOTIFY=&SYSUID,COND=(0,NE),REGION=4M,
//          CLASS=A,MSGCLASS=H
//* -----**** JRH QSCAN for OS/390 and zOS ****-----+
//*          JRH QSCAN for OS/390 and zOS Version: 1.1
//*          Release Date: 04/09/2008
//*          For EVALUATION COPY
//*          BY JRH Golden State Software, Inc.
//*          Copyrighted 2006-2008
//*          Website: www.jrh-inc.com
//* -----+
//QSCAN    JCLLIB ORDER='JRHO.QSCAN.LIB'
//STEP01   EXEC $QSCAN,REGION=4M,COND=EVEN,
//          TRKLOAD='JRHO.QSCAN.LOAD',
//          DSNLOAD='DSN810.SDSNLOAD',
//          RUNLOAD='DSN810.RUNLIB.LOAD',
//          TRKCLIST='JRHO.QSCAN.CLIST',
//          ISPSLIB='ISP.SISPSENU',
//          ISPMLIB='ISP.SISPMENU',
//          ISPLLIB='ISP.SISPPENU',
//          ISPTLIB='ISP.SISPTENU'
//SYSTSIN DD *
ISPSTART CMD(QSCAN)
//* -----*
//* Please Change the content of the following DD names
//* -----*
//* DDNAME      Description
//* -----*
//* PARM        QSCAN Control Parameter                      (Required)
//*
//* JOBINFOI    If Specified, contain information from output queue
//*              in the following Format:
//*              jobname jobno
//*              Ex.
//*              *          select all jobs in Job Queue
//*              ABC*       select all jobs with ABC* in job Queue
//*              A B       select Job A with Jobno B
//*
//* *** Omit JOBINFOI If you want JRH QSCAN to Process Current Job
//* -----*
//* PARM:       Process Parameters
//*              (Required Parameters)
//*              CNTLIN=cntl.in.PDS
//*              CKPTDSN=ckpt.dsname|ckpt.dsname,INITIALIZE|OFF
//*              DYNCNTL=dyncntl.dsname
//*              PREFLEN=3|# Where # between 0 and 8
//*
//*              (Optional Parameters)
//*              WAIT=hhmmss Where hh (00-24) mm (00-60) ss (00-60)
//*              STOP=yy/mm/dd-hh:mm:ss Where yy (00-99) mm (00-60) ss (00-60)
//*              TRACE=ON|OFF
//*              ERROR=ABEND|CONT
//*
//*              (Optional Extract Parameters)
//*              EXTRACT=ON|OFF
//*              EXTRACT0=extract.output.dsname
//*              SPACE_E=cylinders-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
//*              QTYPE=PRINT|EXECUTION
//*              RESUME=OFF|ON
//*              DDNAME=stepnm.procstep.ddname,...|*
//*              DDNMONLY
//*
//*              (Optional Parameters for ALERT Process)
//*              ALERT=OFF|ON
//*              ALERT0=class,external-writer
//*              TOLIST='JRHO.QSCAN.TOLIST'
//*              PREFLENT=3|# Where # between 1 and 8
//*              CONSOLE=OFF|ON
//*
//*              (Optional Parameters for SQL INSERT Interface)
//*              SQL=OFF|ON
//*              SQL0=sql.output.dsname
```

```

/**      SPACE_S=cylinders-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
/**      TBLNAME=JRHJ.qscan_table
/**      SSID=ssid
/**      DSNTIAD=dsntiad
/**      SQLEXEC=ON|OFF
/**      SQLERR=CONT
/**
/**      (Optional Parameters for FTP Interface)
/**      FTP=OFF|ON
/**      SPACE_F=tracks-SPACE(1,10)|Ncylinders|tracksý-SPACE(,#,#)
/**      ----- *
/**      CNTLIN=control.PDSame      CNTLIN used to specify the
/**                                  control.dsname. This parameter
/**                                  is REQUIRED.
/**
/**      QTYPE=PRINT                For qualified OUTPUT Queue jobs
/**      QTYPE=EXECUTION            For qualified Active Executing jobs
/**                                  Default if not specify is QTYPE=PRI
/**
/**      RESUME=ON                  To resume from last processed point
/**                                  Should be used for QTYPE=EXECUTION
/**                                  It is the default for QTYPE=EXECUTI
/**      RESUME=OFF                To start from the beginning of the
/**                                  Should be used for QTYPE=PRINT
/**                                  It is the default for QTYPE=PRINT
/**      DDNAME=*                  All DDnames
/**                                  QSCAN scans thru all output
/**                                  DDNAME in the output queue.
/**
/**      DDNAME=stepnm.procstep.ddname,...
/**                                  is the optional DDNAME list
/**                                  it narrow down the output
/**                                  result set only to those
/**                                  ddname.
/**                                  If no DDNAME entered,
/**                                  JESMSGGLG,JESYSMSG will be
/**                                  the only 2 DDname used.
/**
/**      DDNMONLY                  Use DDnames specified under DDNAME=
/**                                  only. Usually used with QTYPE=EXECU
/**                                  together with DDNAME=..JESMSGGLG
/**
/**      SQL0=sql.output            Save INSERT SQL output to
/**                                  a dataset - sql.output.
/**
/**      ALERTO=C,W                Specify ALERT Output Class
/**                                  and External Writer
/**                                  (W - use SMTP for SMTP
/**                                  interface)
/**
/**      CONSOLE=OFF|ON            Sending Alert Message to
/**                                  System Console.
/**
/**      WAIT=hhmmss               Wait period. Wherehh (00-24) hours
/**                                  mm(00-60) minutes ss (00-60) second
/**                                  Default, if not specified,
/**                                  will scan once and then end.
/**
/**      STOP=yy/mm/dd-hh:mm:ss    Stop at specified date and time
/**
/**      TRACE=ON|OFF              Turn ON or OFF Trace
/**
/**      ERROR=CONT                For CRITEXTRT,CRITALERT and CRITFTP
/**                                  criteria process, if there is an
/**                                  error,QSCAN will stop with an Abend
/**                                  Specify ERROR=CONT will skip syntax
/**                                  error for the selected jobs and
/**                                  continue processing qualified jobs.
/**
/**      CKPTDSN=ckpt.dsname|ckpt.dsname,INITISLIZE|OFF
/**                                  Check Point dsname contains last
/**                                  processed Job information. It is
/**                                  a required parameter if //JOBINFO
/**                                  is used.
/**                                  Specify CKPTDSN=ckpt.dsname to

```

```

/**          to process from last check points
/**          Specify
/**          CKPTDSN=ckpt.dsname,INITIALIZE
/**          to process all qualified jobs
/**          the first cycle and then process
/**          from last check point begining
/**          from the second cycle.
/**          Specify CKPTDSN=OFF
/**          to turn off the last job check and
/**          scan all qualified jobs for
/**          all cycles.
/**          ----- *
//PARM DD DATA,DLM=PP
CNTLIN='JRHH.QSCAN.CNTL'
CKPTDSN='JRHH.QSCAN.CKPTDSN',INITIALIZE
DYNCNTL='JRHH.QSCAN.DYNCTL'
WAIT=000500
STOP=08/04/09-20:56:12
PREFLEN=3
QTYPE=PRINT
RESUME=OFF
DDNAME=stepnm.procstep.ddname,...
*
EXTRACT=ON
  EXTRACTO='JRHH.qscan.extract.{cdate()}.{ctime()}'
  SPACE_E=cylinders-SPACE(1,10)
*
SQL=ON
  SQLO='JRHH.qscan.sql.{cdate()}.{ctime()}'
  SPACE_S=cylinders-SPACE(1,10)
  TBLNAME=JRHH.qscan_table
  SSID=DB8G
  DSNTIAD=dsntiad
  SQLEXEC=ON
  SQLEERR=CONT
*
ALERT=ON
  ALERTO=P,SMTP
  TOLIST='JRHH.QSCAN.TOLIST'
  PREFLENT=3
  CONSOLE=OFF
*
FTP=OFF
  SPACE_F=tracks-SPACE(1,10)
PP
/**          ----- *
/**          JOBINFOI: Used this file to define a list of output job queue
/**          job list. The format of the file is
/**          jobname jobno
/**          Ex.
/**          *          Select all jobs in Job Queue
/**          ABC*          Select all jobs with ABC* in job Queue
/**          A.B          Select Job A with Jobno B
/**
/**          Skip JOBINFOI DD directs JRH QSCAN to process
/**          Current Job from Job Queue.
/**          ----- *
//JOBINFOI DD DATA,DLM=JJ
*
JJ

```

Detail Description

DDNAMES used in the JRH QSCAN for OS/390 and zOS job:

//SYSTSIN DD

JRH QSCAN startup Command. This DD is required,

```
//SYSTSIN DD *  
ISPSTART CMD(QSCAN)
```

//PARM DD

Define the processing Parameters for JRH QSCAN.

The following options are available parameters for this DD:

(Required Parameters)**CNTLIN option**

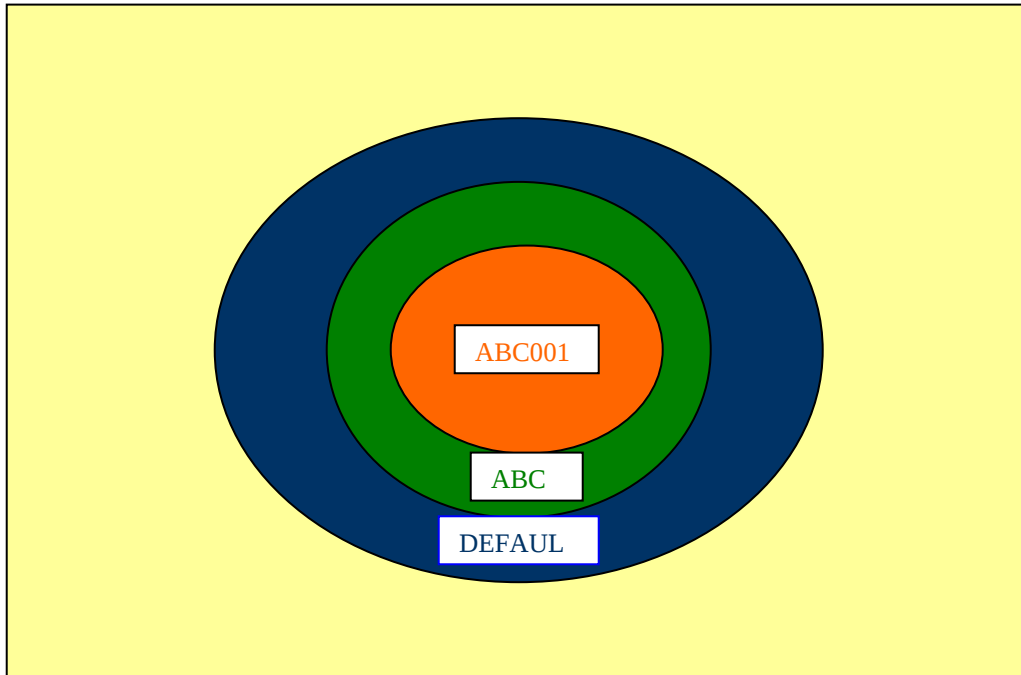
CNTLIN=control.PDS

CNTLIN defines the **control input file**. The file should be a PDS with at minimum one member **DEFAULT** in it. Each member in CNTLIN can contains one or all the following:

OVRDPARM- END_OVRDPARM	PARM Override. Override the parameter specified under //PARM
CRIEXTRT – END_CRIEXTRT	Criteria for the Extract process in standard REXX language
CRIALERT - END_CRIALERT	Criteria for the Alert process in standard REXX language used with ALERT=ON option
ALERTI – END_ALERTI	Defines Alert Input skeleton
SQLI – END_SQLI	Defines INSERT SQL skeleton and is used with SQL=ON option to generate INSERT SQL for qualified extracts.
CRIFTP – END_CRIFTP	Criteria for the FTP process in standard REXX language and is used with FTP=ON option
FTPPARM – END_FTPPARM	Defines FTP parameters and is used with FTP=ON option

Please see information in the next pages for detail description of the category.

SEQUENCE OF SEARCH and USAGE for CNTLIN and TOLIST:



The Diagram shown above illustrates the sequence of override as for the usage of the CNTLIN and TOLIST. Assume we have 3 members in the CNTLIN and 3 members in TOLIST. Using the default PREFLEN=3 and PREFLENT=3,

For CNTLIN usage:

- A qualified job name ABA001 is going to use the **DEFAULT** control information only.
- A qualified job name ABC000 is going to use the control information from **ABC** and then from **DEFAULT**
- A qualified job name ABC001 is going to use the control information from **ABC001** and then from **ABC** then **DEFAULT**.
- The result is the **UNION** of **ABC001** and **ABC** and **DEFAULT**

For TOLIST usage:

The result is **UNION ALL** of **ABC001** + **ABC** + **DEFAULT**

(Required Parameters if //JOBINFOI is specified)

CKPTDSN option

[CKPTDSN=ckpt.dsname[,INITIALIZE] | CKPTDSN=OFF]

CKPTDSN is the dataset which is used for the standalone QSCAN job to keep track on the last qualified job which has been processed. When JRH QSCAN pause and resume based on the wait period (WAIT=hhmmss), **ckpt.dsname** is used to save the last qualified job before the wait started, when it wakeup after time expired. The ckpt.dsname specified needed to be a **PDS**, (use the same dataset from the installation is recommended) and the job name of the JRH QSCAN job will be the member name of the ckpt.dsname.

The layout of CKPTDSN is as follows:

For QTYPE=EXECUTION jobs:

JOBNAME	JOBNO	LAST_PROCESSED_LINE	JOB_START_DATE_TIME
---------	-------	---------------------	---------------------

For QTYPE=PRINT jobs:

JOBNAME	JOBNO
---------	-------

JRH QSCAN uses the last job information kept in this file to reposition from qualified job queue. Specify INITIALIZE option with CKPTDSN directs JRH QSCAN to ignore the information from specified ckpt.dsname and start JRH QSCAN from the beginning. Use CKPTDSN=OFF to extract information for all qualified jobs from job queue. (Re-scan every qualified batch jobs instead from last processed job)

DYNCNTL option

[DYNCNTL=dyncntl.dsname]

Use DYNCNTL to turn ON or OFF trace dynamically. It is also being used to dynamically STOP the scan process or change the scanning cycle. When JRH QSCAN finish a scan cycle and waiting for time to expire for the next scan cycle, you can modify this dataset thru SETUP screen with the following:

TRACE=ON	to turn on trace
TRACE=OFF	to turn off trace
STOP=YES	to end JRH QSCAN at end of current scan cycle.
STOP=yy/mo/dd-hh:mm:ss	to stop JRH QSCAN at specified date and time
WAIT=hhmmss	to change the scanning cycle

The dyncntl.dsname specified needed to be a **PDS**, (use the same dataset from the installation is recommended) and the job name of the JRH QSCAN job will be the member name of the dyncntl.dsname.

(Optional Parameters)

QTYPE option

[QTYPE=PRINT | EXECUTION]

QTYPE is used to choose whether you want to process output queue – PRINT or active job – EXECUTION. Default if not specified is PRINT – process output queue jobs only. Use QTYPE=PRINT when use JRH QSCAN to scan a current job. A REXX variable JOBDUR is set to indicate the duration of a active job for QTYPE=EXECUTION.

RESUME option

[RESUME=ON | OFF]

Use RESUME=ON to indicate that the scan will be resumed from last processed point. RESUME=ON is the default for QTYPE=EXECUTION. Specify RESUME=OFF start the scan from the beginning of the qualified jobs.

RESUME=OFF is the default for QTYPE=PRINT.

When specify QTYPE=EXECUTION and RESUME=ON, You should also specify DDNAME and DDNMONLY options.

EXTRACT option

[EXTRACT=ON | OFF]

EXTRACT process switch. Default if not specify is ON.

Use EXTRACT=OFF to turn off the extract output process. This can be used when if you want to use JRH QSCAN for ALERT or FTP only type of process.

EXTRACTO option

[EXTRACTO=extract.output.dsname]

EXTRACTO assign the output dataset for the extract output. Omit this option directs JRH QSCAN to send all extract output to SYSOUT=*.

SPACE_E option

[SPACE_E=[cylinders-SPACE(1,10)|tracks|cylinders-SPACE(##,##)]

Use SPACE_E to define the space allocation for the newly created EXTRACTO extract output dataset. When a new EXTRACTO output dataset is created, if no SPACE_E is specified, JRH QSCAN allocate the new dataset with 1 cylinder primary allocation and 10 cylinders secondary allocation as default. You can override this default with your own choice by specifying SPACE_E. The allocation unit must be **cylinders or tracks** and the **primary and secondary allocation must be numeric**.

DDNAME option

[DDNAME=stepname.procstep.ddname,stepname.procstep.ddname,..|DDNAME=*]

After a job is qualified, DDNAME option is used to define which DD are used to search for all the criteria. The format of this option is a stepname.procstep.ddname. Do not specify step-name if it cannot be qualified. **Omit this option**, JRH QSCAN, by default, will search only the following 2 DD names: **JESMSG LG** and **JESYSMSG**. If you have jobs with many DD names and output, use DDNAME option can narrow down the search and speed up the scan process. Specify **DDNAME=*** to search **all DD** for the qualified jobs.

When QTYPE=EXECUTION is specified, you should only use one DDNAME probably DDNAME=..JESMSG LG and DDNMONLY options to process new information for each scan cycle.

DDNMONLY option

[DDNMONLY]

Use this option to indicate only the DDNAMES specified with DDNAME option is used. No JESMSG LG or JESYSMSG will be included,

WAIT option

[WAIT=000000|HHMMSS]

For standalone QSCAN job, use WAIT to define the wait period cycle. The format is HHMMSS, where HH is between 00 and 24, MM is between 00 and 60, and SS is between 00 and 60. Depends on how busy your environment is, you can define a shorter or longer wait cycle. Default if not specify, is WAIT=000000 which will scan Job Queue once for qualified jobs and then stop.

STOP option

[STOP=YY/MO/DD-HH:MM:SS|Y]

For standalone QSCAN job, use STOP=yy/mo/dd-hh:mm:ss to define when the scan will be ended. The format is YY/MO/DD-HH:MM:SS, where YY is between 00 and 99, MO is between 01 and 12, DD is between 01 and 31, HH is between 00 and 24, MM is between 00 and 60, and SS is between 00 and 60.

PREFLEN option

[PREFLEN=3|#]

Use PREFLEN to define the length of the control file member prefix. It is used to decide which control members as well as the sequence of search, are used for the qualified jobs. The default, if not specified, is PREFLEN=3.

The example from the diagram of previous page demonstrates how the search sequence is determined.

Let us assume we have 3 members defined in the control PDS: DEFAULT, ABC and ABC001.
The following qualified jobs use different control member to drive JRH QSCAN process:

Jobname	Control Members used
-----	-----
AAA000	DEFAULT
ABC000	ABC and then DEFAULT
ABC001	ABC001 and then ABC and then DEFAULT

ERROR=CONT option

[ERROR=CONT]

Use ERROR=CONT to continue process scanning when there is an error occur. Since all the criteria for extract, alert, ftp are all coded by user thru CNTLIN, to avoid job abend with invalid coding, use this option to bypass the coding error. The default, if not specified, is ERROR=STOP.

The example from the diagram of previous page demonstrates how the search sequence is determined.

(Optional Parameters for ALERT Process)

ALERT option

[ALERT=OFF | ON]

Use ALERT option to turn ALERT process switch ON or OFF. Default if not specify is OFF.

ALERTO option

[ALERTO=class, external-writer]

Use ALERTO option to define the output class and external writer name where you want to send your alert message to. If used, ALERTI and CRIALERT are also REQUIRED. For SMTP interface, external-writer usually is defined as SMTP. For Example, Specify ALERTO=P,SMTP will send alert message to output class P and external writer SMTP.

TOLIST option

[TOLIST=tolist.pds]

Use TOLIST option to define the SMTP RCPT TO information for the alert message. The tolist.pds specified should be a PDS dataset (Use the installation tolist is recommended), and the name of the job being scanning is the member of the tolist.pds. The result of the tolist destination is the combination of all qualified tolist member. Using the diagram from previous page, the result of the tolist = ABC001 + ABC + DEFAULT.

PREFLENT option

[PREFLENT=3|#]

Use PREFLENT to define the length of the tolist file member prefix. It is used to decide which tolist members are used for the qualified jobs. The default, if not specified, is the same as PREFLEN. See PREFLEN for detail.

CONSOLE option

[CONSOLE=OFF|ON]

When an ALERT condition is raised and an alert is fired. Use CONSOLE=ON option to send the alert message also to the system console. The default if not specified is CONSOLE=OFF, no console messages are sent.

(Optional Parameters for SQL INSERT Interface)

SQL option

[SQL=OFF | ON]

Use SQL option to turn ON or OFF SQL process switch. Default if not specify is OFF.

SQLO option

[SQLO=insert.sql.output]

Specify SQLO option to define an output file for the generated INSERT SQL. It is required if SQL=ON is specified.

SPACE_S option

[SPACE_S=[cylinders-SPACE(1,10)]tracks|cylinders-SPACE(,#,)#]

Use SPACE_S to define the space allocation for the newly created SQLO INSERT SQL output dataset. When a new SQLO output dataset is created, if no SPACE_S is specified, JRH QSCAN allocates the new dataset with 1cylinder primary allocation and 10 cylinders secondary allocation. You can override this default with your own choice by specifying SPACE_S. The allocation unit must be **cylinders or tracks** and the **primary and secondary allocation must be numeric**.

TBLNAME option

[TBLNAME=your.QSCAN_table]

Use TBLNAME option to specify the name of your JRH QSCAN DB2 table name to be used to store the INSERT SQL generated during extracting process.

SSID option

[SSID=ssid]

Use SSID option to define DB2 sub-system ID where the generated INSERT SQL will be executed. This is a required parameter if SQLEXEC=ON is specified.

DSNTIAD option

[DSNTIAD=dsntiad]

Use DSNTIAD option to define the DB2 plan name for IBM provided DSNTIAD. This is a required parameter if SQLEXEC=ON is specified.

SQLEXEC option

[SQLEXEC=ON|OFF]

By default, JRH QSCAN executes the generated INSERT SQL during extract process. Specify SQLEXEC=OFF to disable this SQL execution. (You can always execute the generated INSERT SQL at a later time.

SQLERR option

[SQLERR=CONT]

Use this option to continue processing the rest of the INSERT SQL if there are errors generated during the INSERT SQL execution. Use SQLERR=CONT if you need to reprocess the same jobs and to avoid SQL with Duplicate rows SQL error. Specify this option will pass RC0 option to DSNTIAD program.

(Optional Parameters for FTP Interface)

FTP option

[FTP=OFF | ON]

Use FTP option to turn ON or OFF FTP process. Default if not specify is OFF.

SPACE_F option

[SPACE_F=[TRACKS-SPACE(1,10)|tracks|cylinders-SPACE(##,##)]

Use SPACE_F to define the space allocation for the newly created FTP put output dataset. When a new FTP put output dataset is created, if no SPACE_F is specified, JRH QSCAN allocate the new dataset with 1 track primary allocation and 10 tracks secondary as default. You can override this default with your own choice by specifying SPACE_F. The allocation unit must be **cylinders or tracks** and the **primary and secondary allocation must be numeric**.

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The following is an example of a //PARM DD:

```
//PARM DD *
CNTLIN='my.QSCAN.cntl'
CKPTDSN='my.QSCAN.ckptdsn'
DYNCNTL='my.QSCAN.dyncntl'
WAIT=1000 PREFLEN=3
EXTRACT=ON
    EXTRACTO='my.QSCAN.extract.{cdate()}.{ctime()}'
    SPACE_E=CYLINDERS-SPACE(1,10)
SQL=ON
    SQLO='my.QSCAN.sql.{cdate()}.{ctime()}'
    SPACE_S=CYLINDERS-SPACE(1,10)
    SQLEXEC=ON
        SSID=DSN8
        DSNTIAD=DSNTIAD
        TBLNAME=MY.QSCAN_TABLE
        SQLERROR=CONT
ALERT=ON
    ALERTO=P,SMTP
    CONSOLE=OFF
    PREFLENT=3
FTP=OFF
    SPACE_F=TRACKS-SPACE(1,10)
```

//JOBINFOI

Use this DD to define a list of output job queue information. The format of the job information is as follows:
JOBNM JOBNO

Omit //JOBINFOI if you want JRH QSCAN to search the current running job output queue. JOBNM can be wild card with an * at the end of the JONBM. When wild card JOBNM is used, you can only code that wild card JOBNM as the only entry for the entire process. The following are some examples of the JOBINFOI:

Use the following for ALL job queue information
//JOBINFOI DD *
*

Use the following for jobs start with JRH????
//JOBINFOI DD *
JRH*

Use the following for jobs JRH001 with job no JOB00050 and JRH001 with job no JOB00054.
//JOBINFOI DD *
JRH001 JOB00050
JRH002 JOB00054

CNTLIN Control Member Definition:

Rule to write CRIEXTRT, CRIALERT and CRIFTP criteria script

The criteria script should follow the rules below:

- o The standard REXX should be used to write the criteria script. **But do not use ; in your script.**
- o REXX variable `RECIN` is the place hold for each of the scanned line.
- o Since your REXX script will be running together with QSCAN, you should always **prefix your REXX variable with your JOBNAME.**
For example, use `MYJOB_i = MYJOB_i + 1` instead of `I = I + 1`

Reserved REXX Variables

The following is a list of the Reserved REXX variables which you can use to in the process of criteria script or alert and SQL skeleton:

Reserved REXX variables

<i>Jobnm</i>	<i>job name information</i>
<i>Jobdate</i>	<i>job date</i>
<i>Jobtime</i>	<i>job start time</i>
<i>Jobnum</i>	<i>job number</i>
<i>Seqno</i>	<i>event sequence no</i>
<i>Stepnm</i>	<i>job step name</i>
<i>Procstep</i>	<i>job proc step name</i>
<i>Startm</i>	<i>job step start time</i>
<i>Stoptm</i>	<i>job step end time</i>
<i>Duration</i>	<i>duration of the job step</i>
<i>Cc</i>	<i>job step condition code</i>
<i>Cpum</i>	<i>job step CPU minutes</i>
<i>Cpus</i>	<i>job step CPU seconds</i>
<i>Srbm</i>	<i>job step SRB minutes</i>
<i>Srbs</i>	<i>job step SRB seconds</i>
<i>Jobinfoo</i>	<i>Addition job information to be extracted</i>

CRIEXTRT: and END_CRIEXTRT

By default, JRH QSCAN extract basic job related information automatically. To extract more specific information from job queue, you need to use CRIEXTRT: and END_CRIEXTRT pair to define the criteria information.

There are 2 REXX variables used to hold the extract output:

extrt_i: Index for the Array jobinfo.
jobinfo. : REXX variable Array to hold the extract output

At end of each scanned Job, *jobinfo.* will be processed and output to a file defined with EXTRACT and INSERT SQL will be output to a file defined with SQLO.

The example below extracts dataset name with HR.DBA or HH.DBA anywhere on the output line.

jobinfo.extrt_i is the REXX variable which are used to hold additional extract information from output queue which you want to output to EXTRACTO and SQLO files.

```
CRIEXTRT:
If (Index(recin, 'HR.DBA') \= 0 |
    Index(recin, 'HH.DBA') \= 0 ) Then
Do
    If substr(recin,1,4) = 'DSN=' Then
    Do
        extrt_i = extrt_i + 1
        Parse value recin with junk1 '=' jobinfo.extrt_i ',' junk2
    End
    Else
    If Index(recin, 'IGD107I') \= 0 Then
    Do
        extrt_i = extrt_i + 1
        jobinfo.extrt_i = Word(recin,2)
    End
End
END_CRIEXTRT
```

CRIALERT: and END_CRIALERT

Use CRIALERT: and END_CRIALERT pair to define the criteria information to be used for QSCAN Alert Process.

Additional Rules to code CRIALERT:

- o Set REXX variable *Alert_Message* and then
- o *Call Setup_alert*
- o *Set STOP_SW = 'Y' if you want to stop scan based on certain condition*

The following example will issue ALERT if condition code of the current Job Step is > 4 or any system ABEND S222, S322...

Example:

```
CRIALERT:
If cc > 4 | substr(cc,1,1) = 'S' Then
Do
  Alert_Message = jobnum stepnm 'Condition Code 'cc
  Call Setup_alert
End
END_CRIALERT
```

ALERTI: and END_ALERTI

Use ALERTI: and END_ALERTI pair to define the ALERT shell. The definition can contain substitution variable (a REXX variable in {})
Please refer to Description under Reserved REXX variables to see a list of all REXX substitute variables which can be use in the ALERTI shell.

The Example below uses standard SMTP method to send ALERT message. Using **<TOLIST>** in place of the actual To Addresses allow QSCAN to pull a set of predefined addresses from TOLIST control file.

All alert messages are **appended** at the bottom after SUBJECT with the information defined in CRIALERT process with the REXX variable name: **alert_message**.

Example:

```
ALERTI:
HELO your-domain-name.com
MAIL FROM:<@sender-domain.name.com:sender-email-address>
RCPT TO:<@receiver-domain.name.com:receiver-email-address>
or
<TOLIST>
DATA
SUBJECT: Alert for Job {jobnm}-{jobnum} on {jobdate} {jobtime}
END_ALERTI
```

SQLI: and END_SQLI

Use SQLI and END_SQLI pair to define INSERT SQL shell. The shell can contain substitute variable (REXX variable in {}). The information is a list of all the available substitute variables. SQLI and END_SQLI pair is required if SQL=ON is defined in //PARM. A QSCAN DB2 table is required (See SETUP for detail of how to define this table) and can include some or all of the following columns associated with the REXX variable name:

<i>DB2 Column</i>	<i>REXX variable name</i>
<i>JOB_NAME</i>	<i>jobnm</i>
<i>JOB_DATE</i>	<i>jobdate</i>
<i>JOB_TIME</i>	<i>jobtime</i>
<i>JOB_NO</i>	<i>jobnum</i>
<i>SEQ_NO</i>	<i>seqno</i>
<i>STEP_NAME</i>	<i>stepnm</i>
<i>PROC_STEP</i>	<i>procstep</i>
<i>START_TS</i>	<i>startm</i>
<i>STOP_TS</i>	<i>stoptm</i>
<i>DURATION</i>	<i>duration</i>
<i>CC</i>	<i>cc</i>
<i>CPU_MIN</i>	<i>cpum</i>
<i>CPU_SEC</i>	<i>cpus</i>
<i>SRB_MIN</i>	<i>srbm</i>
<i>SRB_SEC</i>	<i>srbs</i>
<i>JOBINFO</i>	<i>jobinfo</i>

The example below inserts all Job/Step related information into a DB2 table named my.QSCAN_table.

Example:

```
SQLI:
INSERT INTO my.QSCAN_table
(JOB_NAME, JOB_DATE, JOB_TIME, JOB_NO,
 SEQ_NO, STEP_NAME, PROC_STEP,
 START_TS, STOP_TS,
 DURATION, CC,
 CPU_MIN, CPU_SEC, SRB_MIN, SRB_SEC,
 JOBINFO)
VALUES
('{jobnm}', '{jobdate}', '{jobtime}', '{jobnum}',
 {seqno}, '{stepnm}', '{procstep}',
 '{startm}', '{stoptm}',
 {duration}, '{cc}',
 {cpum}, {cpus}, {srbm}, {srbs},
 '{jobinfo}'
); COMMIT;
END_SQLI
```

CRIFTP: and END_CRIFTP

Use CRIFTP: and END_CRIFTP to define the criteria information to be used for FTP process.

Additional rule to code CRIFTP script:

- o Set REXX variable *ftp_output* to the information to be FTP.
- o *call Setup_FTP* to process FTP.

The example below sends/FTP a line with the following information

```
jobnm jobnum HR.DBA.name
```

for each output queue line with HR.DBA in it.

Example:

```
//CRIFTP DD *
If Index(recin, 'HR.DBA') \= 0 &
  Index(recin, 'IGD107I') \= 0 Then
Do
  ftp_output = jobnm jobnum
               Word(Substr(recin, Index(recin, 'HR.DBA'), 50), 1)
  Call Setup_FTP
End
```

FTPPARM: and END_FTPARM

Use FTPARM: and END_FTPARM to define the FTP Parameters.

1st line: FTP Parm Sever ID information
2nd line: open statement. This line is optional
3rd line: UserID Pswd
4th+ : Any FTP command can be followed
At least one of the FTP PUT command is required.
The source file (First operand) of the LAST put command is used as the file to hold the information which meets CRIFTP criteria.

The example below uses junk2 to hold the file to be FTPed.

Example:

```
FTPPARM:
SERVER_ID 21 (TIMEOUT 20
open dest1
userid pswd
ls -lai
put junk2 junk
ls -lai
quit
END_FTPARM
```

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