# Mainte Building Job Relationships

## Triggering

- Job Triggering
- Dataset Triggering

## Predecessor

- Job Predecessor
- Dataset Predecessor

## **Job Triggering**

 Job triggering panel permits multiple trigger entries. Multiple SCHID triggers can be entered on one screen

## **Functions:**

- FORMAT Clears the screen of input data
- LIST Displays all existing SCHID's with one per screen
- **UPD** Updates the job triggers

# Mainter Tob Triggering Panel (Cont.)

### **Parameters**

- JOB The job that will do the triggering
- OPT Values for the Options column (A-Add; D-Delete; U-Update)
- SCHID Schedule ID for the job that will do triggering
- TRGD-JOB The name of the job that will be triggered.
- TRIGID A unique value for the job that will be triggered.
- **DOTM** Time that the job should be completed; includes elapsed time and CA-7 queue time.
- QTM Queue time
- **LDTM** Lead time
- **SBTM** Submit time
- **EXCEPTIONS** Free-form comments

# Mainte Verifying the Job Structure

**FSTRUC -** This command produces a report displaying the entire job flow.

```
FSTRUC,FROM=,JOB=,TRIG=,SCHID=,LIST=
```

FROM - Beginning date and time(mmddyy,hhmm)

**JOB** - Specifies the job name for the forecast

TRIG -Identifies what type of triggered job included

(J-Only job triggered jobs; D-Only dataset triggered; DJ-Both Job and Dataset triggered jobs; N-Neither job or dataset triggered included)

**SCHID** - Identifies the Schedule Id (1-255)

**LIST** - Specifies the optional contents of the structure

(LAST - only first and last jobs in the structure. ALL - whole job structure)

# Maintec Dataset Triggering Panel

- The dataset triggering panel permits a single dataset to trigger multiple jobs.
- This identical to Job triggering panel parameters with exception of the DSN and DSNBR fields

## **Parameters:**

- DSN Dataset name whose creation will initiate the execution of a job. This dataset must be created by a CA-7 job.
- **DSNBR** CA-7 assigned dataset number.

## **Job Predecessor**

 Creating a job predecessor is done through the Database maintenance menu. DB.3

**Dataset Predecessor** - Use to establish a dataset requirement for a job.

## **Functions:**

- FORMAT Use to clear the screen
- LIST Use to display information about existing job predecessors
- UPD Use to modify or change existing job predecessors

## Maintec Job Predecessor (Cont.)

## Fields:

- **PRED FOR JOB** The job for which the job requirement are being defined of listed
- LIST-SCHID Applies only to the LIST function (SCHID=0 for All schedules)
- **LEADTM** Lead time in hours
- PRED-JOB Names the job on which the job specified in the Job field is dependent
- NEXT-RUN Indicates status of this predecessor for the next run of this job

## Maintec Job Predecessor (Cont.)

## **Options**

- A = Add Use to create a new relationship
- D = Delete Use to delete a relationship
- U = Update Use to modify an existing relationship
- \* = Processed Indicates successful relationship established
- ? = Error Indicates an error was found while processing the predecessor request

## Maintec Verifying the Job Predecessor

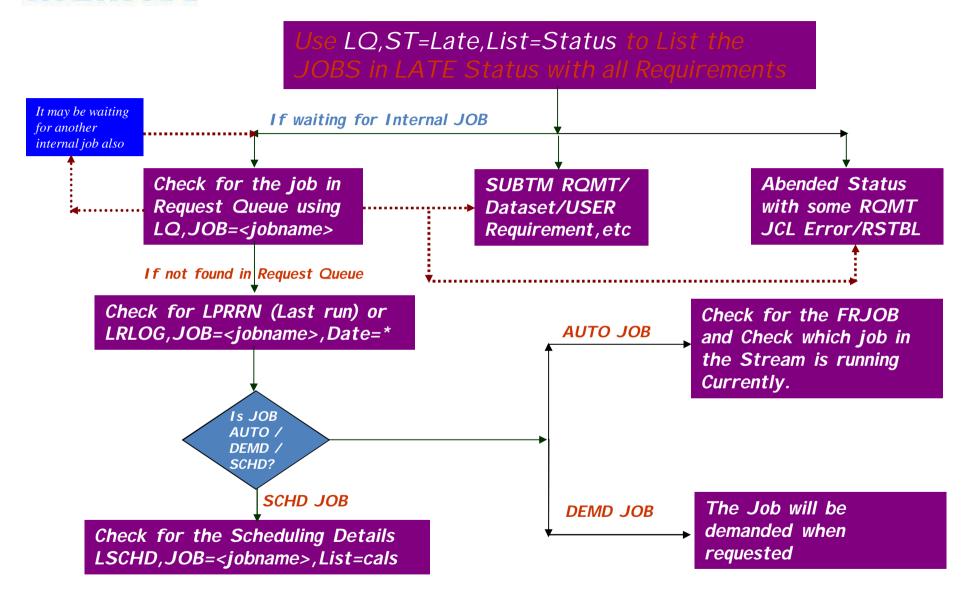
## LJOB, JOB=, LIST=RQMT

- JOB Identifies the job name for the requirements
- **LIST=RQMT** Provides details regarding the requirements and network connections for the specified job.

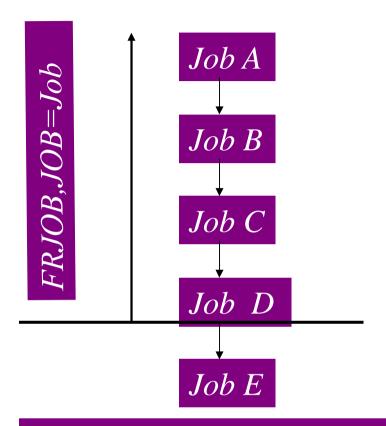
Late jobs...
Forecasting?
Jobs on Hold...

CA-7 Procedures

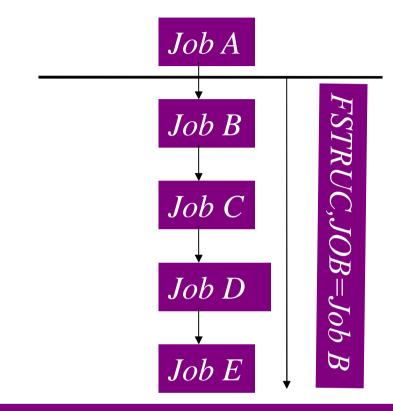
#### Late Job Analysis:







Reverse Structured Format: Job D is triggered by Job C Job C is triggered by Job B Job B is triggered by Job A



Forward Structured Format: Job B is triggering Job C Job C is triggering Job D Job C is triggering Job E



- using the db.3.2 or jobconn, job we can view the LDTM (look back time).
- Note that, db.3.2 or jobconn, job do the same function; and db.3.6 or jobconn, usr do the same function.

- To Put the job on Hold when it is not on the Request queue.
  - Use db.3.6 or jobconn, usr panel and add the user requirement.
- To add Request / Job dependencies, use the ADDRQ command as follows:
  - addrq,job=<job name/job num>,depjob=<jobname>,usr=<text>

#### Different types of Requirements

#### Various Requirements can be viewed in XQM Panel

- J → internal job requirement
- I → Internal Dataset requirement
- E →External Dataset Requirement
- *U* → *User requirement*
- *N* → *Network Requirement*
- S → Submit Requirement
- H → Hold requirement
- J →JCL Override requirement
- V → Manual Verification requirement

Different ways to put the jobs on HOLD:

- 1.Add the user requirement using ADDRQ command.
- 2.Go to XQM Panel and put 'h' wherever needed.
- 3.Go to Job definition Panel, and mark HOLD as Y. This is to put a job on Permanent hold.
- 4. Using DB.3.6, we can add the user requirement.
- 5.Use the HOLD command to put the job on hold.

Note: xqm,fill=h is used to put all the jobs on hold in the queue.

To cancel a Job in the ACTIVE Queue:

- Go to Spool & put C or P for that job and Cancel it, and then,
- Come to XQM Panel, then Force Complete it.
- In General to cancel a Job use the following command: Cancel,job=<jobname/job no.>,force=yes,reason=<text>
- Why Force=Yes, is necessary, when Canceling a Job?
- The FORCE=yes option is used when the job is in a skeleton status or when the Job is running under CA-11. It is used to clear the contents CMT, else, if the job abends, the job is cancelled, but the contents of the CMT is not deleted.

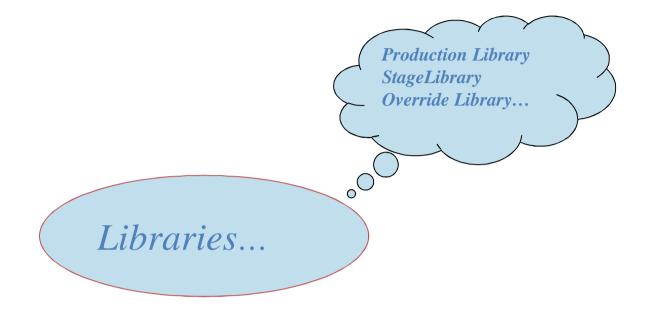
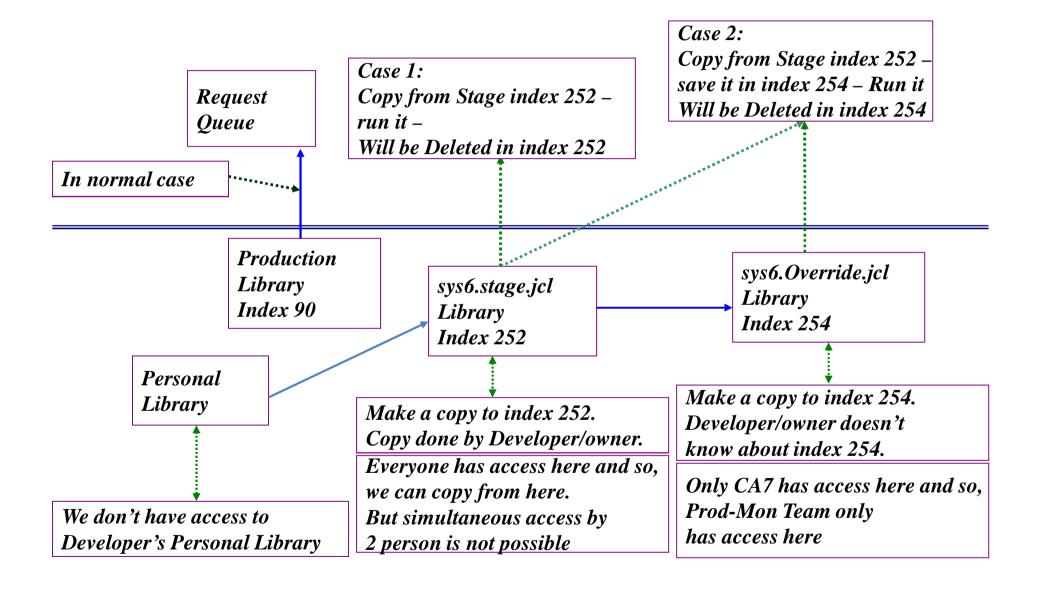


Fig: Over view of Stage & Index Library



#### Different Methods to run the jobs

To Demand the job with hold from Production library (index 90):

**Command:** demandh,job=jobname,schid=<Num>,set=ntr,time=\*\*\*\*

**Note:** Set= ntr  $\rightarrow$  will bypass the triggers. It is optional.

Steps to be followed to run the job from Stage library (index 252):

- 1. Check whether the job is defined in CA7.  $\rightarrow$  if Ca7 defined Job, then:
- 2. Steps: JCL  $\rightarrow$  Fetch (from index 252) $\rightarrow$  Save (to Index 254)  $\rightarrow$  Demand the Job with / without Hold.



#### Different Methods to run the jobs

Steps to be followed to run the job from Override library (index 254):

- 1. Check whether the job is defined in CA7.  $\rightarrow$  if Ca7 defined Job, then:
- 2. Steps : JCL → Fetch (from index 252) → repl (replace in Index 254) → Demand the Job with / without Hold.

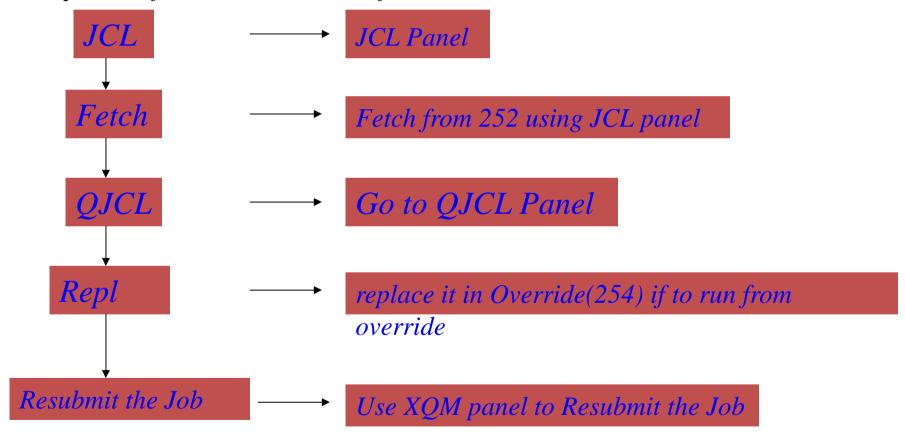
Use  $\rightarrow$  JOB, <jobname>  $\rightarrow$  to Check whether the job is defined in CA7.

Note: its advisable to demand the jobs with Hold.

#### Different Methods to run the jobs

Steps to be followed to run the abended job > from Stage / override library (index 252 / 254):

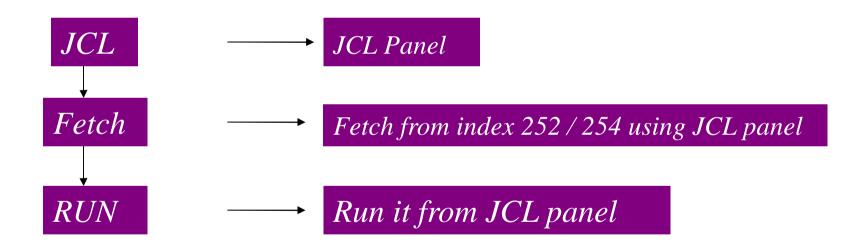
- 1. Check whether the job is defined in CA7.  $\rightarrow$  if Ca7 defined Job, then:
- 2. Steps to be followed in Pictorial form:





Steps to be followed to run the a Non CA7 job  $\rightarrow$ 

- 1. Check whether the job is defined in CA7 . → if not a Ca7 defined Job, then:
- 2. Steps to be followed in Pictorial form:



## Maintec Regular CA7 Commands

Command	Purpose	Notes
LJOB,JOB=*****	Listing of job information.	
LPRRN,JOB=*****	Listing of last successful run	
XQJ	Gives list of jobs in queue	
LRDY	Lists jobs awaiting execution	
CANCEL,JOB=Y****	Cancels job off the queue	
/LOGON & /LOGOFF	Logs on and off CA-7.	
HELP	Gives help on commands, syntax, etc.	Once HELP has been typed, user should then type ⇒ Y and 1 to allow access to the correct screen.
DEMAND(H),JOB=Y***	Demands (hold[H] is optional) job into CA7. If [H] is used then it will wait in the XQJ screen until released.	Should be used in conjuction with SCHID=0xx if job is to be run on a particular day.

## MainteOther Useful CA7 Commands

Command	Purpose	Notes
/DISPLAY,Q=ALL	Shows information on the queue.	
LIST=ALL	Shows everything for that job	Format:
LIST=NODD	Shows everything except DD	LJOB,JOB=PID****,LIST=NOD
LIST=TRIG	Shows trigger information only	D
LIST=SID***	Shows triggers under 1 schedule ID only	
LSCHD,JOB=DID****	Lists every job on the database with	
	a summary of schedule information.	ST=EXP (expired schedules)
FSTRUC,SCHID=***, JOB=******	Gives the order of triggered jobs	Please note that there can be
	under a given structure.	more than one schedule ID
18100		for each job and for each day.
LRLOG	Details of previous runs since midnight	Add date=* which gives the last five days worth. Can also
	munignt	find out which jobs ran late
		or were cancelled by using
		ST=LATE/CANC
LJCL,JOB=Y***	Lists JCL deck to be used by job="x",	
	regardless of whether it's in the	
LICTUID DON Library NATAA maambar	queue (XQJ).	
LISTDIR, DSN=library, MEM=member	Lists members of PDS	
LQ/LQUE	Lists queue information	

## Maother Useful CA7 Commands (Cont.)

Command	Purpose	Notes
LIST	Lists jobs which have fallen over	
/DISPLAY,ST=JCL	Listing of all JCLID's and their associated library.	
LJES	Lists jobs that have been sent to JES	
HOLD,JOB=Y****	Holds job in CA-7 queue (XQJ)	
LQP,JOB=Y****	Lists job information from the Request and LRDY queues	Displays the current status of the job. This command shows you why a job may not be executing
POST,JOB=Y****	Satisfies requirements for jobs.	Command followed by type of requirement to be met. IE. DSN=xx.xxxx.xxxxx or JOB=******
REQUEUE,JOB=Y****	Puts job back in XQJ when it's sitting in LRDY or LJES queues.	
SUBTM,JOB=Y****	Allows you to make your job run at a particular time once already on the XQJ queue.	Followed by TIME=hhmm
/PROF(S)	Lists and updates CA-7 user profiles.	



#### List of CA7 Commands

Queue: LO LIST LRDY LREO LACT LRDYP

Log/History: → LPRRN LRLOG Prose Check: → LPROS

LARF LJCL LSCHD LJOB LWLB

Triggered jobs : → FRJOB FSTRUC CA11 : → ARTS

List of CA7 Commands

**DEMAND** 

DEMANDH

CANCEL

HOLD

RELEASE

/fetch

ARFP

**SUBMIT** 

RUN

**RUNH** 

Miscellaneous Commands: →

SSCAN SCHDMOD

CALMOD

**SUBTM** 

REQUEUE ADDRO NXTCYC JCLOVRD

ARFP JCL QJCL

DB

**JOBCONN** 

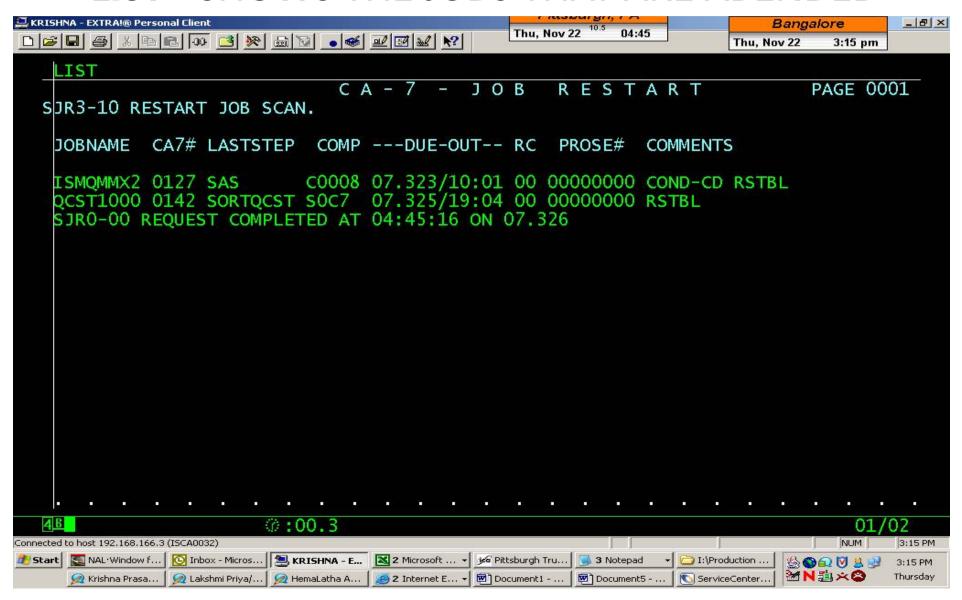
XQM XQN XQJ XUPD XRQ

XWLB

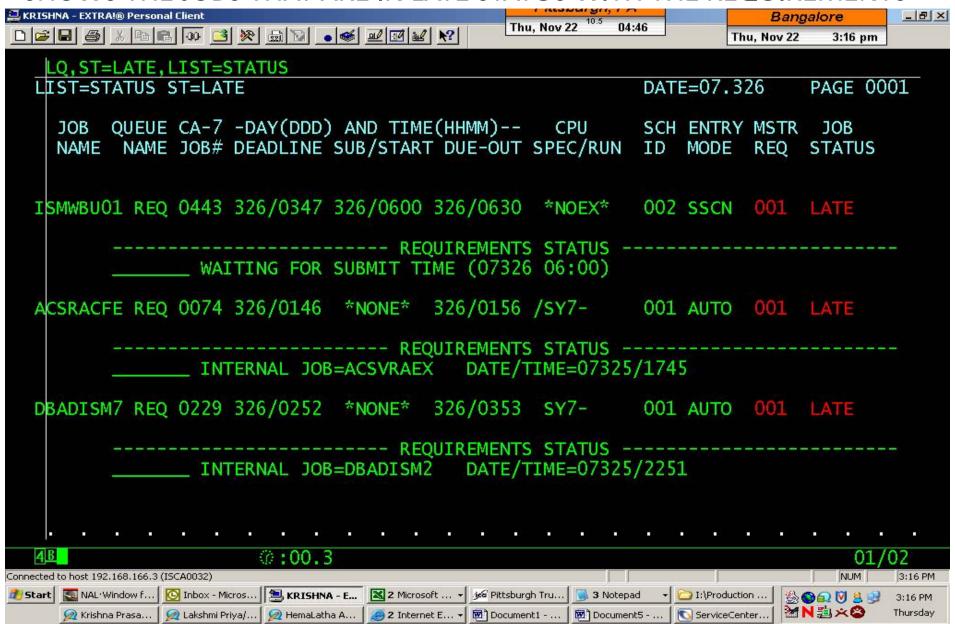
#### **LRDY** - SHOWS THE JOBS THAT ARE IN READY QUEUE



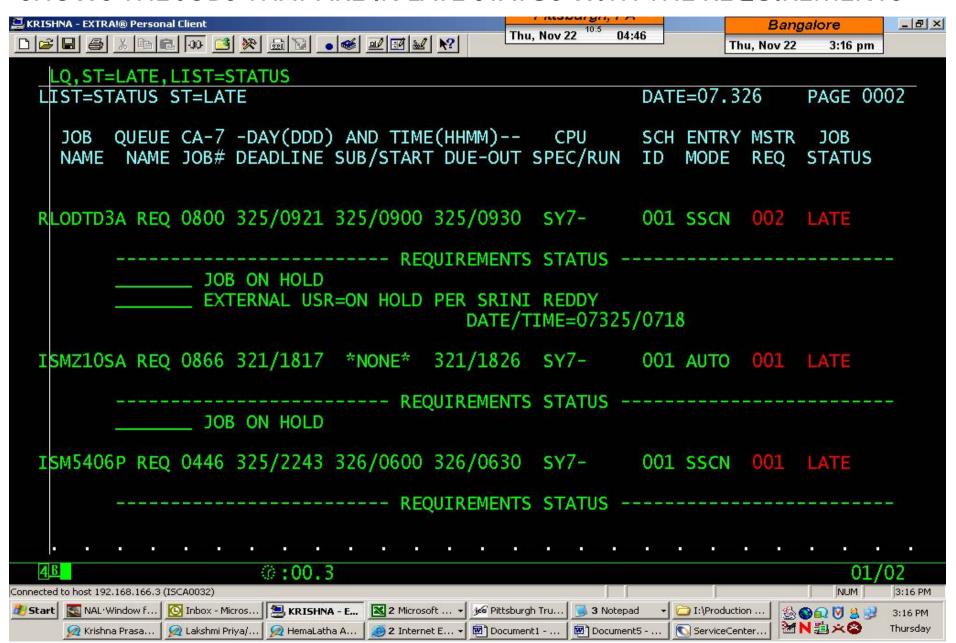
### **LIST** - SHOWS THE JOBS THAT ARE ABENDED



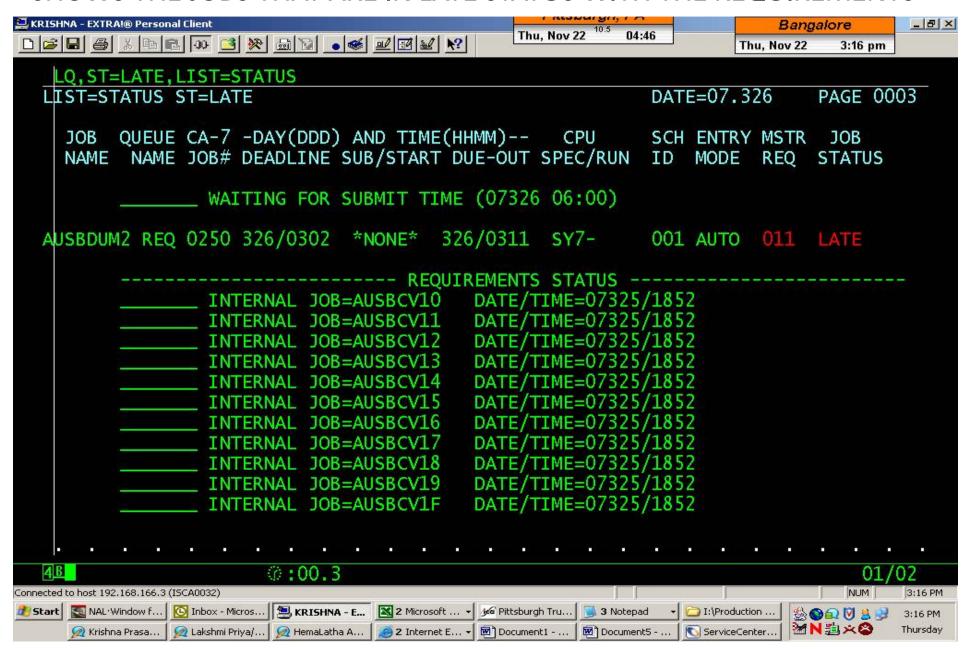
## Maintec LQ,ST=LATE,LIST=STATUS SHOWS THE JOBS THAT ARE IN LATE STATUS WITH THE REQUIREMENTS



## Maintec LQ,ST=LATE,LIST=STATUS SHOWS THE JOBS THAT ARE IN LATE STATUS WITH THE REQUIREMENTS



## Maintec LQ,ST=LATE,LIST=STATUS SHOWS THE JOBS THAT ARE IN LATE STATUS WITH THE REQUIREMENTS

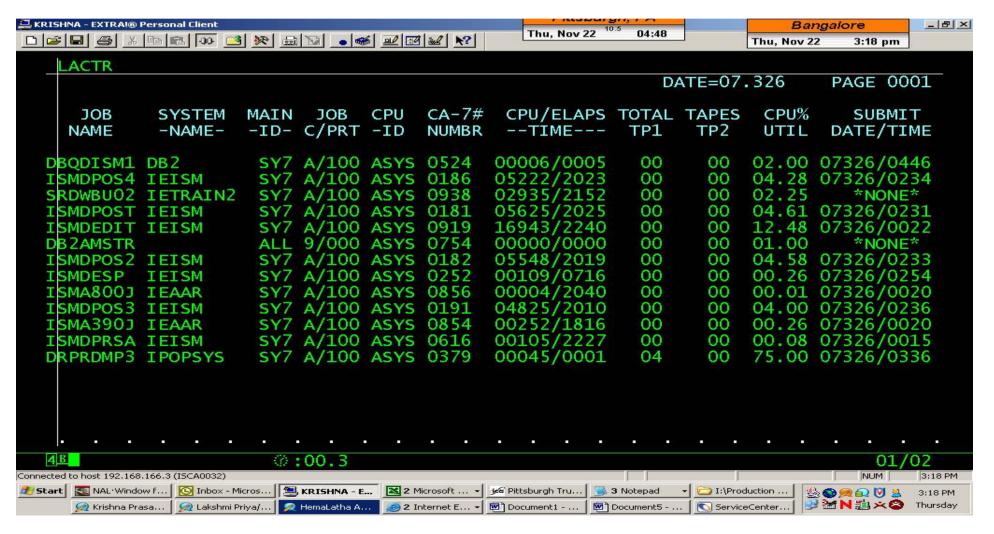


## Maintec LACT - JOBS THATE ARE IN ACTIVE QUEUE



## **LACTR**

# SHOWS THE JOBS THAT ARE IN ACTIVE QUEUE & THE TIME THAT THE JOB TAKES



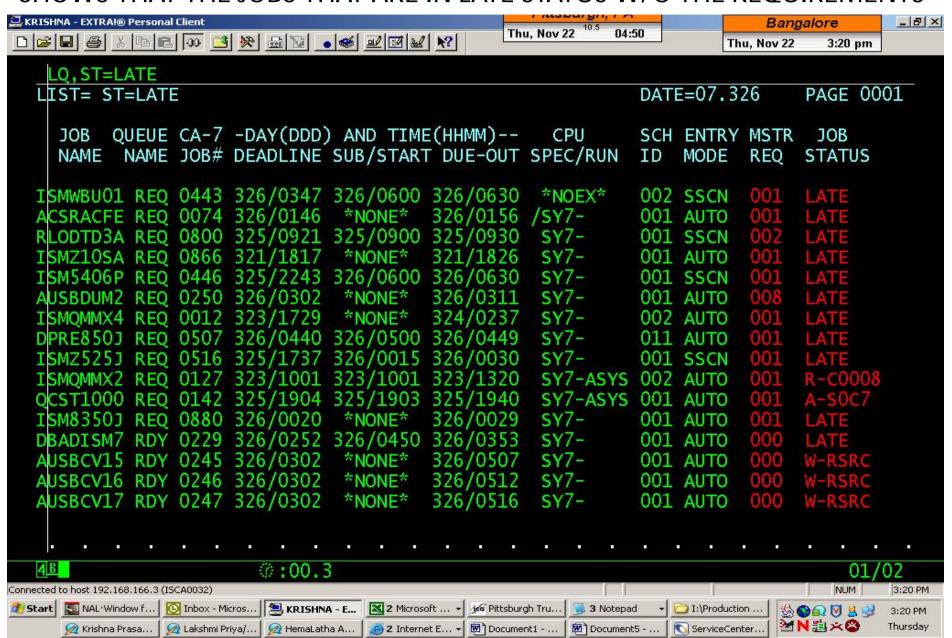
#### LQ,ST=WRSC

#### SHOWS THAT THE JOBS THAT ARE WAITING FOR RESOURCES



#### LQ,ST=LATE

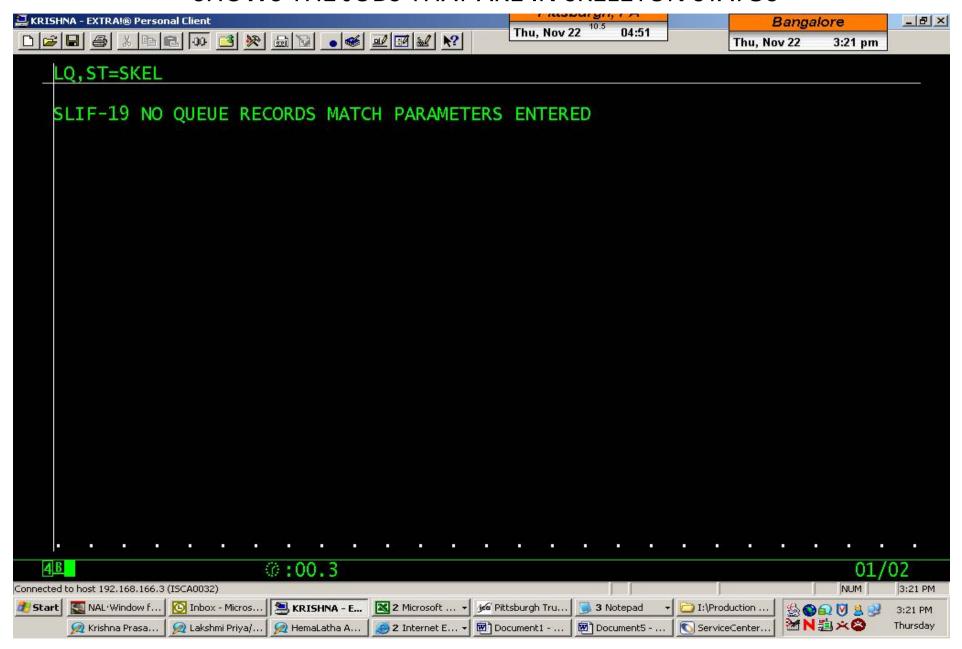
#### SHOWS THAT THE JOBS THAT ARE IN LATE STATUS W/O THE REQUIREMENTS





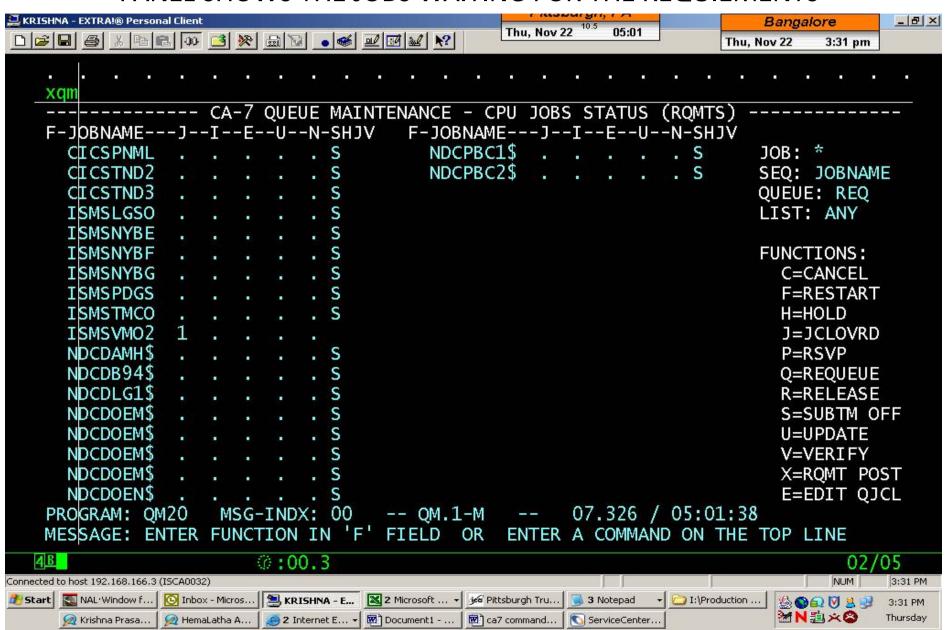
#### LQ,ST=SKEL

#### SHOWS THE JOBS THAT ARE IN SKELETON STATUS



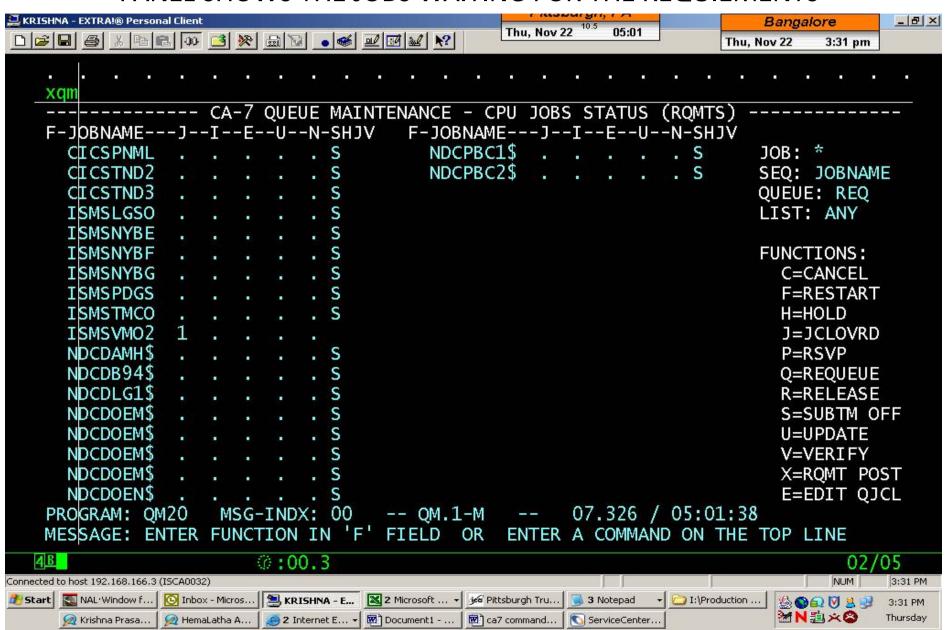
#### **XQM**

#### PANEL SHOWS THE JOBS WAITING FOR THE REQUIEMENTS



#### **XQM**

#### PANEL SHOWS THE JOBS WAITING FOR THE REQUIEMENTS





## **ARF**

(Automated Recovery Facility)

## Maintec ARF

ARF is mainly used for CA-7 to monitor exception conditions for production jobs and to schedule recovery actions to execute when the job abends.

- ➤ Utility which comes with CA-7
- We can write RULES for abended jobs using this Utility.
- One ARFRULE can be attached to multiple jobs.

#### To know if the job uses ARFSET

```
CA-7 CPU JOB DEFINITION -----
FUNCTION: LIST (ADD, DELETE, DD, PURGE, DELPRRN, FORMAT, LIST, UPD)
JOB: MARSDNOA
GENERAL:
             SYSTEM: ARS/NETW JOBNET:
                                                                 UID: 0
                                                OWNER:
JCL:
             ID: 160 MEMBER: MARSDNOA RELOAD: N EXEC: Y RETAIN-JCL: N
             LIB:
REQUIREMENTS: HOLD: N JCL-OVRD: N USE-OVRD-LIB: N VERIFY: N MAINT: N
             SATISFACTION LEAD-TIME: JOB: 0
                                              DSN: 0
                                                       ARFSET: RSTR0069
EXECUTION:
             MAINID: ALL
                           INSERT-RMS: Y COND-CODE: 0
                                                          RO: 0
             DONT SCHEDULE -- BEFORE: 99251 0000 AFTER: 99999 0800
MESSAGES:
             LTERM: MASTER
                              REQUIREMENT-LIST: Y
             ERROR MSGS -- RQMTS NOT USED: Y DSN NOT FOUND: Y
RESOURCES:
             REGION: 4096
                           CLOCK-TIME: 0006 CPU-TIME: 00004
             CLASS:
                       PRTY: 000
                                  MSGCLASS: 9
             TAPE DRIVES...TYPE1: 000 M 000 C TYPE2: 000 M 000 C
PROGRAM: SM20
               MSG-INDX: 00 -- DB.1
                                         -- 03.114 / 12:18:17
MESSAGE: LIST SUCCESSFUL
```

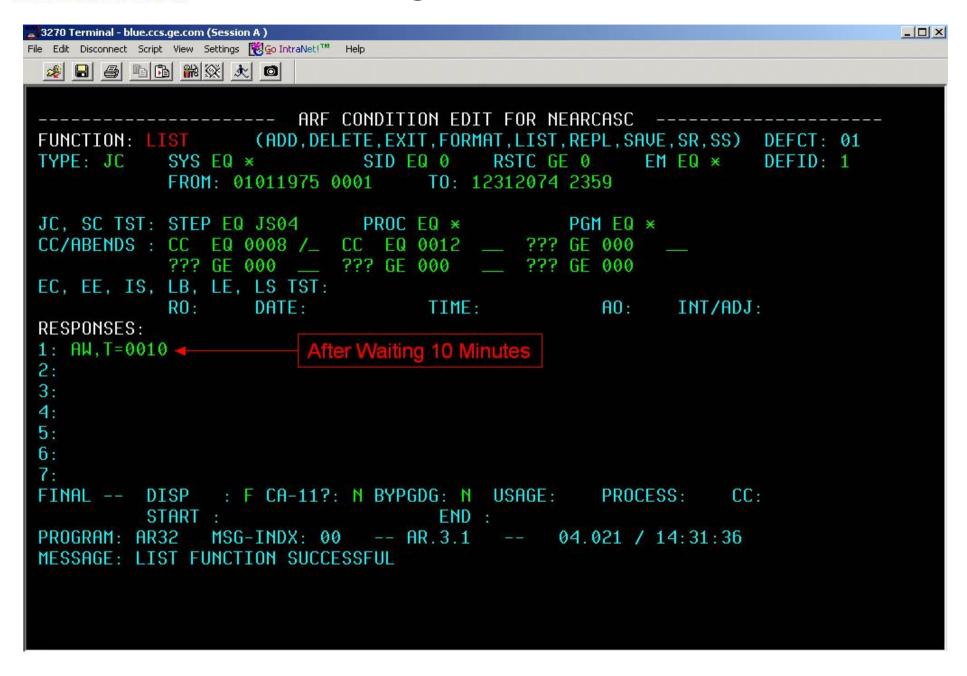
Note: Once the ARF rule is attached to the job, ARF works along with the job when the job is submitted to the spool and consumes the CPU resources.



### To view the ARFSET rule defined to job: Go to 'AR' panel, and give the function as shown below

```
CA-7 ARF CONDITION DEFINITION MAINTENANCE ------
FUNCTION: FE
                   (CLEAR, DELETE, EDIT, FE, FETCH, REPL, SAVE)
SET NAME: RSTR0069
UID
RESPONSE ID:
DEF-COUNT: 000
PROGRAM: AR31
               MSG-INDX: 05
                              -- AR.3
                                          -- 03.114 / 13:07:53
                                                                   MSGS 0008
MESSAGE: INVALID OR OMITTED FUNCTION DATA
```

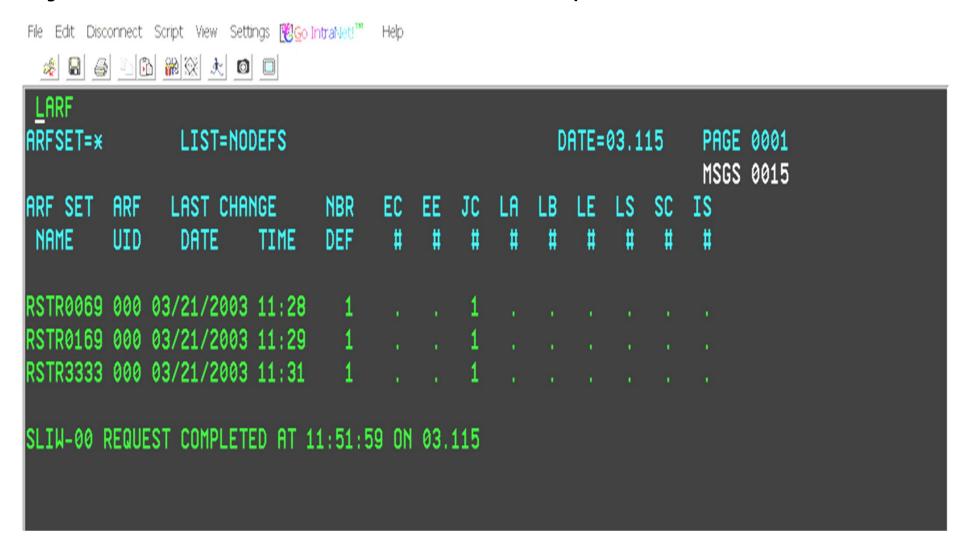
#### **Defining ARF Condition**



LARF Command: THE LARF Command displays information about the

ARFSETS from the database

**Syntax:** LARF, ARFSET=arfset name, LIST=option



#### To purge an ARF

Use ARFP command to purge an ARF pending on a job.

ARFP,JOB=<job number>,FORCE=YES

- JOB NUMBER → Unique CA-7 number of the job for which pending ARF activity is to be purged.
- FORCE → Forces the purging of the ARF requirement for a job even if it does not exist in the request, ready, or active queue.

Thank you...