

# Autosys Job Scheduling - Quick Reference

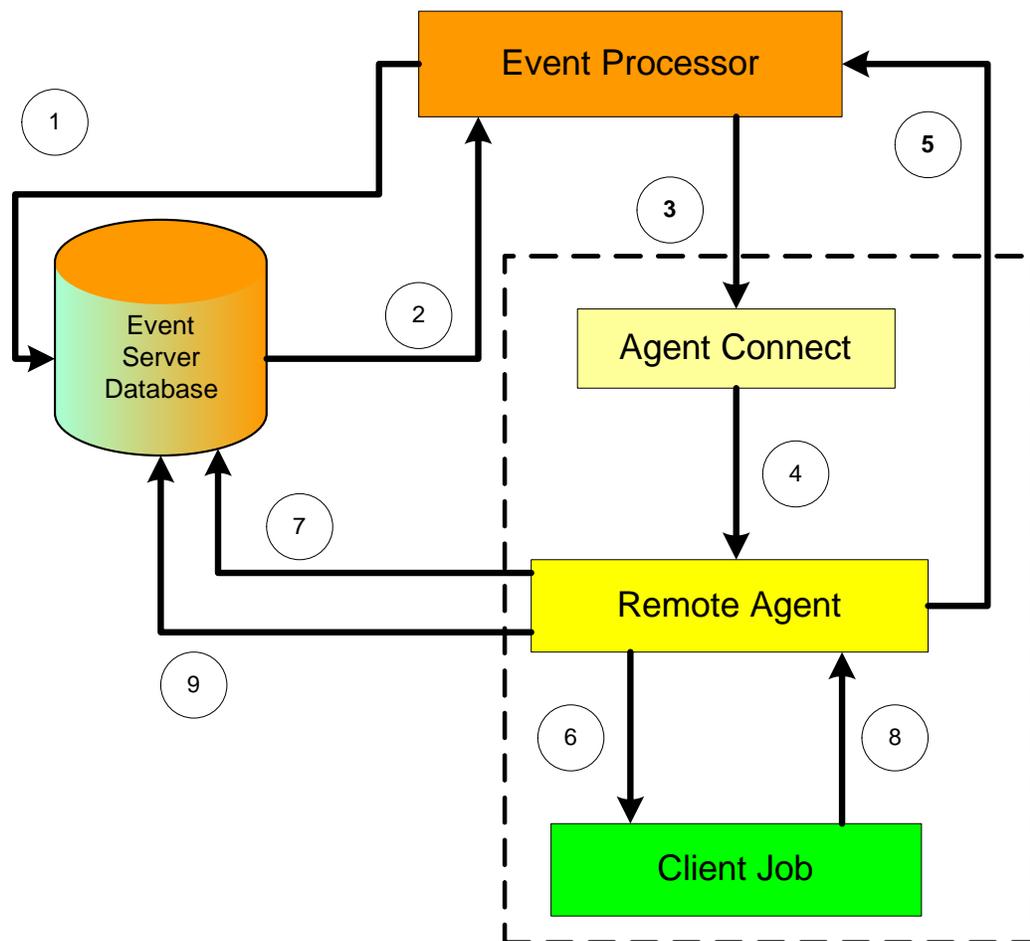
AutoSys is an automated job control system for scheduling, monitoring, and reporting. These jobs can reside on any AutoSys-configured machine that is attached to a network. An AutoSys job is any single command, executable, script, or Windows batch file.

Each AutoSys job definition contains a variety of qualifying attributes, including the conditions specifying when and where a job should be run.

## Autosys Job Management for UNIX

This guide will be helpful in giving basic idea about what Autosys is, defining jobs to AutoSys, monitoring and managing jobs.

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## Defining Jobs:

There are the two methods you can use to create job definitions:

1. Using the AutoSys Graphical User Interface (**GUI**).
2. Using the AutoSys Job Information Language (**JIL**) through a command-line interface.

## Autosys Jobs:

- Job Types and Structure :
- There are three types of jobs:
  - **command**,
  - **file watcher**,
  - **and box**.

As their names imply:

- command jobs execute commands,
- box jobs are containers that hold other jobs (including other boxes),
- and file watcher jobs watch for the arrival of a specified file.

In the AutoSys environment, the box job (or box) is a container of other jobs. A box job can be used to organize and control process flow.

The box itself performs no actions, although it can trigger other jobs to run.

An important feature of this type of job is that boxes can be put inside of other boxes.

### **Default Box Job Behavior:**

Some important rules to remember about boxes are:

1. Jobs run only once per box execution.
2. Jobs in a box will start only if the box itself is running.
3. As long as any job in a box is running, the box remains in RUNNING state; the box cannot complete until all jobs have run.
4. By default, a box will return a status of SUCCESS only when all the jobs in the box have run and the status of all the jobs is "Success".
5. By default, a box will return a status of FAILURE only when all jobs in the box have run and the status of one or more of the jobs is "Failure".
6. Unless otherwise specified, a box will run indefinitely until it reaches a status of SUCCESS or FAILURE.
7. Changing the state of a box to INACTIVE
  - Via the sendevent command, changes the state of all the jobs in the box to **INACTIVE**.

## Job States and Status:

AutoSys keeps track of the current state, or status, of every job. The value of a job's status is used to determine when to start other jobs that are dependent on the job. The job status is displayed in the job report generated by the autorep command, and in the job report you can view in the Job.

## Activity Console

Following are the status of Autosys jobs:

1. **INACTIVE:**
  - The job has not yet been processed. Either the job has never been run, or its status was intentionally altered to "turn off" its previous completion status
2. **ACTIVATED:**
  - The top-level box that this job is in is now in the RUNNING state, but the job itself has not started yet.
3. **STARTING:**
  - The event processor has initiated the start job procedure with the Remote Agent.
4. **RUNNING:**
  - The job is running. If the job is a box job, this value simply means that the jobs within the box may be started (other conditions permitting).
  - If it is a command or file watcher job, the value means that the process is actually running on the remote machine.
5. **SUCCESS:**
  - The job exited with an exit code equal to or less than the "maximum exit code for success." By default, only the exit code "0" is interpreted as "success." If the job is a box job, this value means that all the jobs within the box have finished with the status SUCCESS (the default), or the "Exit Condition for Box Success" evaluated to true
6. **FAILURE:**
  - The job exited with an exit code greater than the "maximum exit code for success." By default, any number greater than zero is interpreted as "failure".
  - AutoSys issues an alarm if a job fails
7. **TERMINATED:**
  - The job terminated while in the RUNNING state. A job can be terminated if a user sends a KILLJOB event or if it was defined to terminate if the box it is in failed. If the job itself fails, it has a FAILURE status, not a TERMINATED status.
  - A job may also be terminated if it has exceeded the maximum run time (term\_run\_time attribute, if one was specified for the job), or if it was killed from the command line through a UNIX kill command.
  - AutoSys issues an alarm if a job is terminated.
8. **RESTART:**
  - The job was unable to start due to hardware or application problems, and has been scheduled to restart.

9. **QUE\_WAIT:**

- The job can logically run (that is, all the starting conditions have been met), but there are not enough machine resources available.

10. **ON\_HOLD:**

- This job is on hold and will not be run until it receives the JOB\_OFF\_HOLD event.

11. **ON\_ICE:**

- This job is removed from all conditions and logic, but is still defined to AutoSys. Operationally, this condition is like deactivating the job.
- It will remain on ice until it receives the JOB\_OFF\_ICE event.

The difference between "**on hold**" and "on ice" is that when an "on hold" job is taken off hold, if its starting conditions are already satisfied, it will be scheduled to run, and it will run.

On the other hand, if an "on ice" job is taken "**off ice**," it will not start, even if its starting conditions are already satisfied. This job will not run until its starting conditions reoccur.

The other major distinction is that jobs downstream from the job that is "**on ice**" will run as though the job succeeded.

Whereas, all dependent jobs do not run when a job is on "**on hold**"—nothing downstream from this job will run.

Every time an event changes any of the above conditions, AutoSys finds all the jobs that may be affected by this change, and determines whether or not to start them.