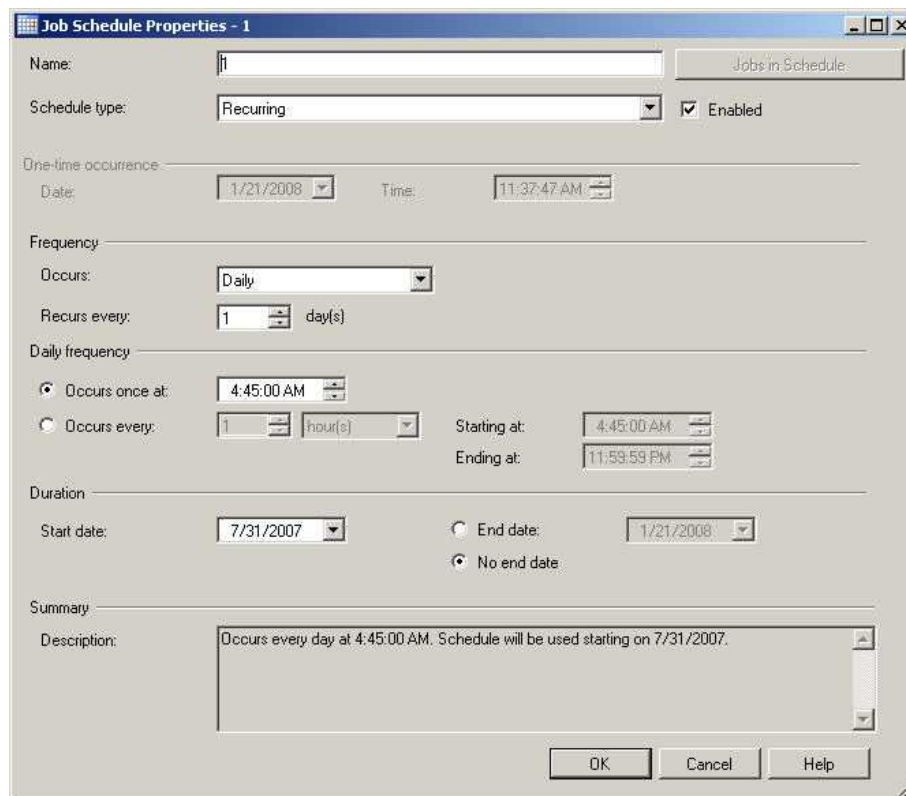


Job Automation

Job automation plays a vital role in allowing database administrators to manage large and complex SQL Server environments with limited resources. SQL Sentry Event Manager offers several features that allow those DBAs to gain a detailed vision of scheduled events across the largest enterprise while easily implementing the needed automation.

Why is job automation important?

Practically all SQL Servers utilize automated processes. Backups, replication, log shipping, ETL processes all require automation to execute regularly and reliably. SQL Server Agent provides an easy and effective way to execute these processes as SQL Agent Jobs so they run according to the schedule you define. Often, this is sufficient to ensure proper maintenance and other events occur on a regular basis. But, what if certain jobs rely on the successful completion of other jobs before they should run? What if a certain file needs to be available? You can make your best guess as to when that dependency might be met and schedule the job accordingly, but you may guess wrong. The previous job may run longer than you expected some days, allowing your next job to start before the previous one completes. Even when the dependencies are met, you may build in enough "buffer time" in the schedule to avoid an overlap, but likely lose time on the server while nothing is running.



Job Schedule Properties - 1

Name: Jobs in Schedule:

Schedule type: Enabled

One-time occurrence:

Date: Time:

Frequency:

Occurs:

Recurs every: day(s)

Daily frequency:

Occurs once at:

Occurs every: hour(s) Starting at:

Ending at:

Duration:

Start date: End date:

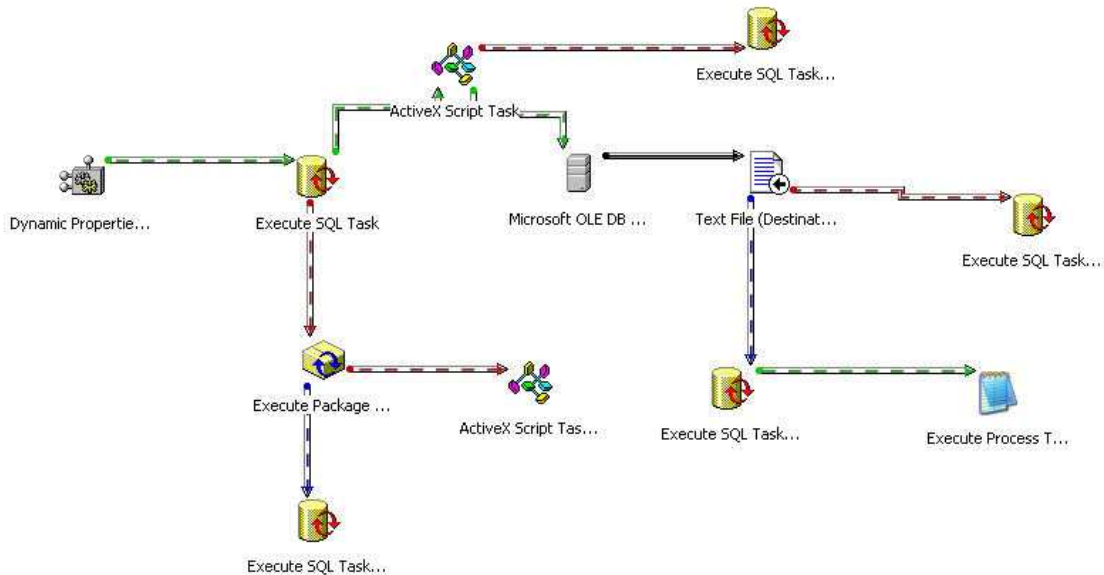
No end date

Summary:

Description:

How can I automate my SQL Server jobs?

Fortunately, SQL Server provides various scripts and platforms such as DTS or SSIS to allow the savvy DBA to develop packages of code to check for various dependencies and direct workflow accordingly. Unfortunately, a certain amount of experience is typically required to effectively develop this type of solution. It can be time consuming to develop and often requires ongoing maintenance to ensure everything works as it should. This is particularly true if you are automating activity across multiple servers, which is often the case. Additionally, should something go wrong, a fair amount of troubleshooting may be required to get to the root of the problem with limited visibility provided by the native tools.

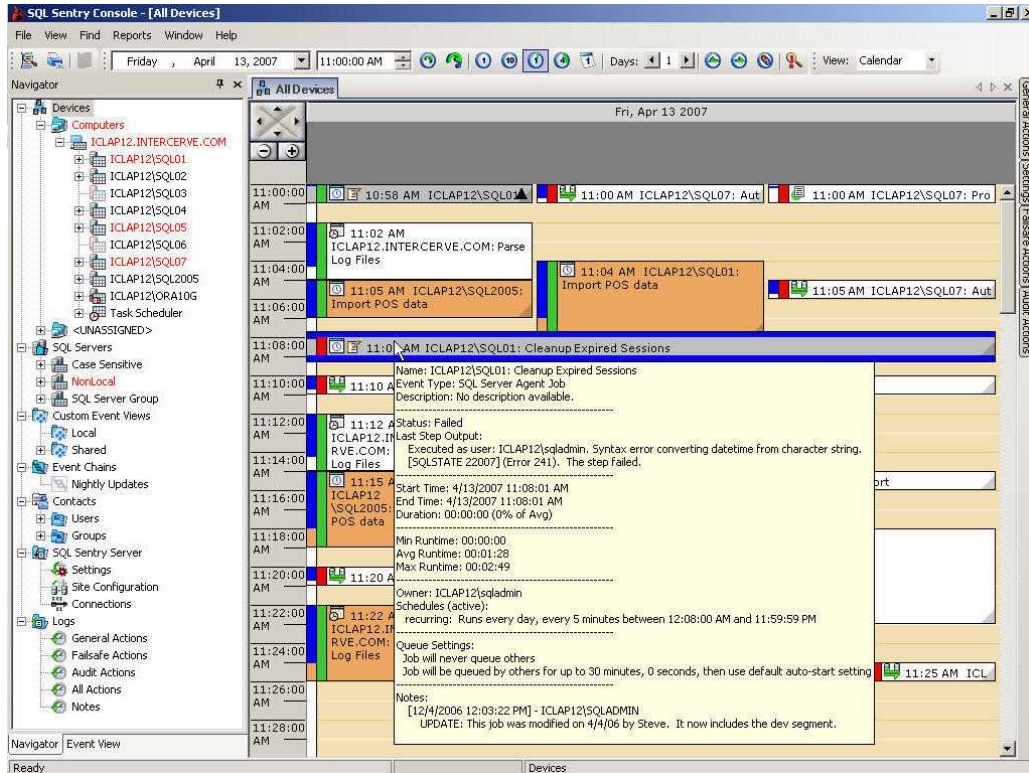


How can it be done better, faster, cheaper?

SQL Sentry Event Manager provides simple and easy methods for handling job monitoring and automation via visual job scheduling, robust alerting and response, and advanced job chaining.

Visual Scheduling

Event Manager's Outlook-style calendar shows all events on a server -- both scheduled events such as jobs and tasks, as well as unscheduled events like SQL Server Agent Alerts and Agent Log status events. A single click on any event provides a popup tooltip with all the run details including start and end time, percentage of average duration, and the last step output.



For DTS packages, SSIS packages, or multi-step jobs, you get a callout of all the individual steps for the package, including step start and end times as well as success and failure status.

Step ID	Step Name	Start Time	End Time	Duration	Message
573352	DTSStep_DTSDynamicProperties...	1/21/2008 3:00:13 PM	1/21/2008 3:00:13 PM	00:00:00	Processed: 0
573353	DTSStep_DTSExecuteSQLTask_1	1/21/2008 3:00:13 PM	1/21/2008 3:00:58 PM	00:00:45	Processed: 0
573354	DTSStep_DTSActiveScriptTask_1	1/21/2008 3:00:58 PM	1/21/2008 3:00:58 PM	00:00:00	Processed: 0

<p>Step Error Source: Microsoft Data Transformation Services (DTS) Package Step Error Description: Error Code: 0 Error Source= Microsoft VBScript runtime error Error Description: Division by zero</p> <p>Error on Line 7</p> <p>Step Error code: 800403FE Step Error Help File: sqldts80.hlp Step Error Help Context ID: 4500</p>

Alerting and Response

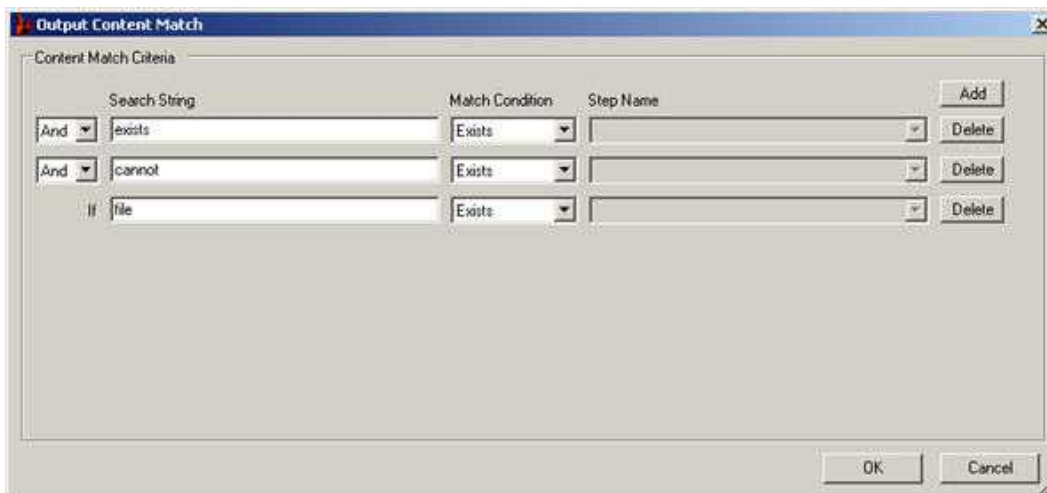
Event Manager employs the most comprehensive and reliable notification system available today for SQL server, providing a wide variety of response actions to any event status, runtime or performance condition. Full alerting features are also provided for Windows Task Scheduler, Reporting Services, and Oracle. The SQL Sentry notification system is agent-less, fault-tolerant and has no dependencies on SQLmail or MAPI.

There are over 90 conditions which Event Manager can watch for and respond. Some provide for customized conditions such as Output Content Match, which is available for

many objects. It allows you to specify text strings which must exist or not exist within the output text for the event for a specific action to be taken.

Actions - Condition		Enabl..	Pare..	Effecti..
Action Type				
+ Condition: SQL Server Agent Log: Error				
+ Condition: SQL Server Agent Log: Warning				
+ Condition: SQL Server Agent Log: Output Content Match				
+ Condition: SQL Server Agent Alert: Alert Fired				
+ Condition: SQL Server Agent Alert: Output Content Match				
+ Condition: SQL Server Agent Job: Started				
+ Condition: SQL Server Agent Job: Completed				
+ Condition: SQL Server Agent Job: Success				
+ Condition: SQL Server Agent Job: Failure				
+ Condition: SQL Server Agent Job: Step Failure				
+ Condition: SQL Server Agent Job: Retry				
+ Condition: SQL Server Agent Job: Runtime Threshold Max				
+ Condition: SQL Server Agent Job: Runtime Threshold Min				
+ Condition: SQL Server Agent Job: Conflict				
+ Condition: SQL Server Agent Job: Queued				
+ Condition: SQL Server Agent Job: Block				
+ Condition: SQL Server Agent Job: Run Missed				
- Condition: SQL Server Agent Job: Output Content Match				
Execute Job		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execute Process		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execute SQL		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Log To Disk		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Log To Database		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Log To Event Log		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Send Email		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Send Page		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

For example, if the step output for a job includes "cannot" and "file" and "exists", then I know the specific error for this job is due to the fact that a file that I need is not where it should be.

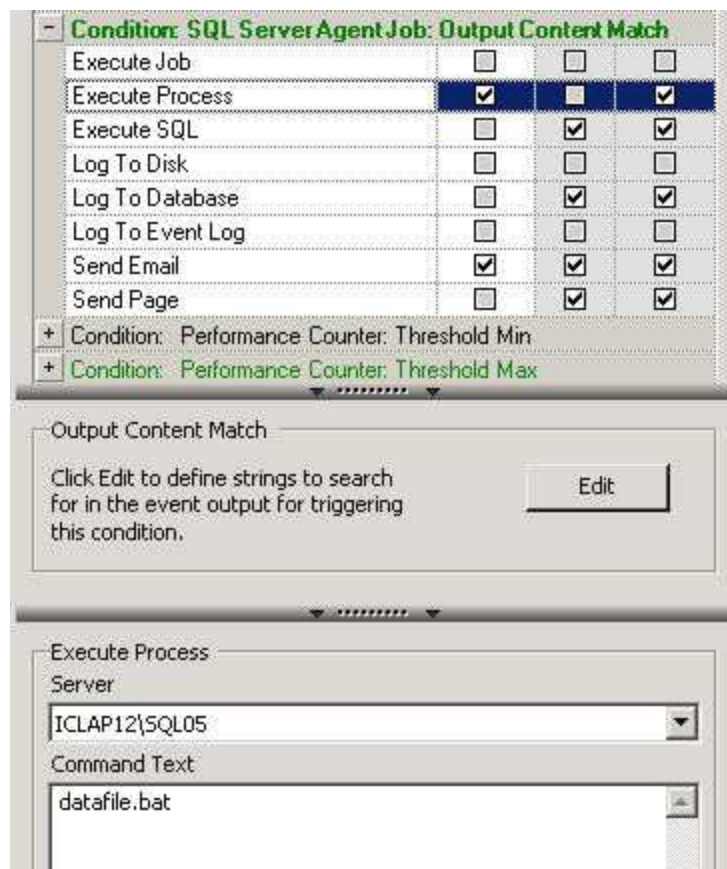


Search String	Match Condition	Step Name
And exists	Exists	
And cannot	Exists	
If file	Exists	

Sending an email or page are just two of the many actions Event Manager can take for a given condition. Instead of sending a notification, you may want Event Manager to log the details of an event for future reference. Details can be saved to SQL Sentry's database for viewing through the logs in the navigator pane. Event details can also be saved to the Windows event log, or any external log file.

Additionally Event Manager can initiate other activity in the enterprise through its execute actions. Execute Job enables Event Manager to start any SQL Agent job on any watched server as a result of the given condition. Execute Process allows Event Manager to start any process on any watched SQL server, similar to using xp_cmd_shell. Finally, Event Manager can run any T-SQL statement on any watched SQL server based on the given condition with the Execute SQL action. Any of these actions may be useful in integrating with other third party applications or building customized logic into the response Event Manager takes.

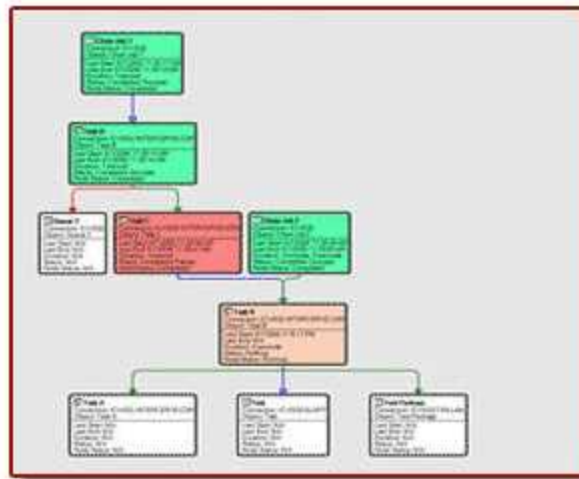
Perhaps in addition to sending an email when the Output Content Match condition tells me the file I need doesn't exist, I would like Event Manager to automatically run a batch file I've written that creates the file for me. I can select the Execute Process action and enter the command to run the batch file. Alternatively, I could write a stored procedure to be executed through the Execute SQL action that creates the batch file and automatically reruns the job. With Event Manager, not only are you alerted to a problem, you can also automate the resolution at the same time.



Job Chaining

With the Event Manager calendar, you gain detailed visibility over any workflows in your SSIS or DTS packages. You can easily drill down to the step level and ensure your jobs are running when they should.

However, if you really want to take automation to a new level, Event Manager's job chaining functionality is the answer. Advanced chaining features enable you to quickly and easily define dependencies and workflows involving SQL Agent jobs, Oracle jobs and/or Windows Tasks. You have ultimate flexibility with regard to how the chains are defined. The chained jobs or tasks can reside anywhere in the enterprise, even across platforms, and there is no limit to the length of the chain or the number of branches it may have.



Regardless how you automate your SQL Server environment, be it through SSIS/DTS packages or some other method, SQL Sentry Event Manager saves time and frustration by providing all the details you need to manage dependencies, with fewer clicks.

Conclusion

SQL Sentry Event Manager is the ultimate scheduling, alerting and response system for database servers, providing DBAs with Outlook style visibility for managing SQL Server events, Windows tasks, and Oracle jobs in increasingly complex cross-platform environments.

Download a free trial at www.sqlsentry.net/download or contact our team sales@sqlsentry.net to find out how SQL Sentry Event Manager can optimize your server schedule performance.