

# IBM Maximo Asset Management V7.5

## Understanding Maximo 7.5 logging



In this training module, you learn about logging in Maximo V7.5.

## Objectives

Upon completion of this training module, you can accomplish these tasks:

- Explain what a logger is
- Name the five log message levels that are available in Maximo Asset Management V7.5
- Explain what an appender does
- Distinguish the difference between a root logger and a child logger
- Modify the log message level setting of a child logger
- Determine the log message levels that are designed for troubleshooting and those that are not

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## Understanding loggers and appenders

- What are loggers?
- How are log statements handled?
- What is a root logger?
- What is a child logger?
- Can you deactivate loggers?
- What is an appender?
- How do loggers and appenders interact?

Loggers are the components of the Maximo version 7.5 system that prepare log statements. Log statements are either written to user interface consoles or sent as output to log files.

Root loggers are at the main subtopic or top application functional level of loggers. Parents are the root loggers, and child loggers are the loggers that inherit the log message level of the root logger. They contain the name of the root logger in their names. Root loggers cannot be deactivated, but child loggers can be deactivated.

An appender is created for output of written log information. System users determine the size that is required for appenders. A logger can have either one appender or multiple appenders. An appender can have output from either one logger or multiple loggers.

## Log message levels

- FATAL
- ERROR
- WARN
- INFO
- DEBUG

The five Maximo Asset Management log message levels are FATAL, ERROR, WARN, INFO, and DEBUG. Additionally, setting the OFF log message level turns off the logging function for a specific application.

## Using logs for troubleshooting: sql logger example

- Written logs are the main source for troubleshooting information
- For example, these settings might be used for SQL troubleshooting:
  - ERROR is the default logging level
  - Changing the SQL logger message level to INFO message level shows SQL statements
  - Changing the SQL logger message level to DEBUG captures additional information
    - Collected at the INFO level, for example, data and events

ERROR is the default log message level for Maximo Asset Management. Set the SQL logger to INFO to show SQL statements. This setting is used only for troubleshooting SQL functionality and is not advised for the regular production run. Set the SQL logger back to ERROR when troubleshooting is completed. General information is contained in the messages when the log message level is set to INFO. Detailed information is contained in the messages when the log message level is set to DEBUG. Like the INFO message level setting, the DEBUG message level setting is only used during troubleshooting scenarios. Reset the SQL logger from DEBUG back to the default ERROR level after troubleshooting is finished.

## Turn on SQL logging and change log message level command strings

Turn on SQL logging

```
SELECT * FROM MAXLOGGER;
```

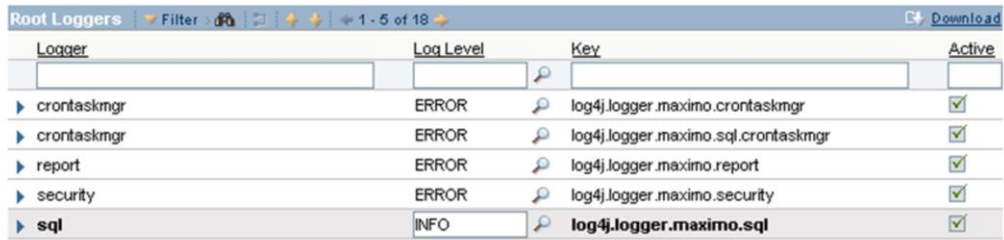
```
UPDATE MAXLOGGER SET ACTIVE = 1 WHERE LOGKEY='log4j.logger.maximo.sql';
```

```
UPDATE MAXLOGGER SET LOGLEVEL='INFO' WHERE  
LOGKEY='log4j.logger.maximo.sql';
```

This slide shows the command strings in SQL that turn on the SQL logging. The first query checks for the current setting in the maxlogger table. The second query sets the SQL logging to active. The third command changes the logging level to INFO.

## Verifying log message level changes

- The log4j.logger.maximo.sql is active
- The log level is set to INFO



Logger	Log Level	Key	Active
▶ crontaskmgr	ERROR	log4j.logger.maximo.crontaskmgr	<input checked="" type="checkbox"/>
▶ crontaskmgr	ERROR	log4j.logger.maximo.sql.crontaskmgr	<input checked="" type="checkbox"/>
▶ report	ERROR	log4j.logger.maximo.report	<input checked="" type="checkbox"/>
▶ security	ERROR	log4j.logger.maximo.security	<input checked="" type="checkbox"/>
▶ <b>sql</b>	<b>INFO</b>	<b>log4j.logger.maximo.sql</b>	<input checked="" type="checkbox"/>

After Maximo Asset Management version 7.5 runs the commands, the SQL logger is set to INFO logging level and the other loggers are at the ERROR logging level.

## Correlation ID

Appender: <input type="text" value="Rolling"/>	A RollingFileAppender which outputs to maximo.log file
Appender Implementation Class: <input type="text" value="psdi.util.logging.MXFileAppender"/>	
Conversion Pattern: <input type="text" value="%d{dd MMM yyyy HH:mm:ss.SSS} [%-2p] [%s] [%q] %m%n"/>	

```
mxce.logging.CorrelationEnabled
mxce.webclient.logging.CorrelationEnabled
```

Output:

```
[INFO] [MXSERVER4] [CID-CRON-0] Correlation started.
[INFO] [MXSERVER4] [CID-CRON-0] BMXAA6719I - USER = (MAXADMIN) SPID =
(136) app (null) object (MAXUSER) : select * from maxuser where
userid = 'MAXADMIN' and status in (select value from synonymdomain
where domainid = 'MAXUSERSTATUS' and maxvalue = 'ACTIVE')
[INFO] [MXSERVER4] [CID-CRON-0] BMXAA6719I - USER = (MA
XADMIN) SPID = (150) app (null) object (PERSON) : select * from person
where personid = 'MAXADMIN'
...
[INFO] [MXSERVER4] [CID-CRON-0] Correlated data: BEGIN
InstanceName:AsyncImmediate TaskName:AsyncImmediateJobCron
ElapsedTime:109 ms END
```

In Maximo version 7.5, a correlation ID is added to trace-related events. In the screen capture, the correlation ID CID-CRON-0 is the ID for tracing the AsyncImmediate crontask.



## Related online documents (1 of 2)

- Enabling logging and appenders to log application events  
<http://www-01.ibm.com/support/docview.wss?uid=swg21446599>
- Using debug properties to monitor and troubleshoot performance  
<https://www-304.ibm.com/support/docview.wss?uid=swg21291250>
- Using fetch stop limits to prevent out-of-memory errors  
<http://www-01.ibm.com/support/docview.wss?uid=swg21412865>

In these tech notes, you can find more information about using logging to troubleshoot problems. The list is continued on the next slide.

## Related online documents (2 of 2)

- Enable debug log level  
<http://www-01.ibm.com/support/docview.wss?uid=swg21455460>
- Error accessing the login page  
<http://www-01.ibm.com/support/docview.wss?uid=swg21420153>  
<http://www-01.ibm.com/support/docview.wss?uid=swg21433828>
- White screen when logging into Maximo  
<http://www-01.ibm.com/support/docview.wss?uid=swg21417720>

This slide contains additional links.

## Summary

Now that you completed this training module, you can accomplish these tasks:

- Explain what a logger is
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