

## Understanding and Solving Java Memory Problems

MEMORY PROBLEMS: THE CHALLENGE AND THE SOLUTION



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# Why should I care about Memory Problems?





## Garbage Collection

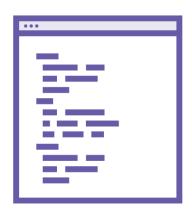


Java is Garbage Collected

Incredibly popular, great feature, really well designed.



GC is not Magic It can't solve all the problems by itself



You need to write code that works effectively in production





# Memory related problems can often cause production outages





### A Tale of Two Methodologies

#### The Headless Chicken

**Popular** 

Panic Driven

Stare at a lot of Code

Guess at what's wrong

Try the same thing as last time

#### The Scientist

Unpopular

**Repeatable Solutions** 

Measure part of your application

Alter code to fix Problem

Re-measure to check it worked





#### Course Outline

Building Your Memory Analysis Toolkit

Solving Memory Leaks Advanced Memory Leaks

Solving Out of Memory Errors

Understanding
Object Allocation
Rate Problems

