



# Understanding and Solving Java Memory Problems

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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



**Code is still King**  
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**

