Microservice Code Mutation – Before vs. After

BEFORE MUTATION

Step 1:	validateUser()

Step 2:	fetchData()

Step 3:	processData()

Step 4:	returnResult()

Polymorphic Transformation

AFTER MUTATION

Step 1:	guardCheck()	*[NEW]*

Step 2:	processData()	*[REORDERED]*

Step 3:	fetchData()	*[REORDERED]*

Step 4:	returnResult()	

Guard check inserted to pre-empt exploit vector
Control-flow reshaped without altering functional outcome
Polymorphic alterations create moving target for attackers

Bytecode Δ > 30% | Functional Equivalence Preserved | AST-Level Transformation