# CWE Detail – CWE-595

## Description

The product compares object references instead of the contents of the objects themselves, preventing it from detecting equivalent objects.

## Extended Description

For example, in Java, comparing objects using == usually produces deceptive results, since the == operator compares object references rather than values; often, this means that using == for strings is actually comparing the strings' references, not their values.

## Threat-Mapped Scoring

Score: 0.0

Priority: Unclassified

## Modes of Introduction

**•** Implementation: N/A

## Common Consequences

**•** Impact: Varies by Context — Notes: This weakness can lead to erroneous results that can cause unexpected application behaviors.

## Potential Mitigations

**•** Implementation: In Java, use the equals() method to compare objects instead of the == operator. If using ==, it is important for performance reasons that your objects are created by a static factory, not by a constructor. (Effectiveness: N/A)

## Applicable Platforms

**•** Java (Class: None, Prevalence: Undetermined)

**•** JavaScript (Class: None, Prevalence: Undetermined)

**•** PHP (Class: None, Prevalence: Undetermined)

**•** None (Class: Not Language-Specific, Prevalence: Undetermined)

## Demonstrative Examples

**•** However, the if statement will not be executed as the strings are compared using the "==" operator. For Java objects, such as String objects, the "==" operator compares object references, not object values. While the two String objects above contain the same string values, they refer to different object references, so the System.out.println statement will not be executed. To compare object values, the previous code could be modified to use the equals method:

**•** Using the == operator to compare objects may produce incorrect or deceptive results by comparing object references rather than values. The equals() method should be used to ensure correct results or objects should contain a member variable that uniquely identifies the object.