A NullPointerException (often abbreviated as NPE) is a common runtime exception in Java. It occurs when the JVM (Java Virtual Machine) attempts to access or modify an object or variable that is null.

**Calling a method on a null object**:

String str = null;

int length = str.length(); // This will throw NullPointerException

**Accessing or modifying a field of a null object**:

MyClass obj = null;

int value = obj.someField; // This will throw NullPointerException

**Attempting to use a null object in an array:**

MyClass[] arr = new MyClass[10];

arr[0].someMethod(); // This will throw NullPointerException, as arr[0] is null