

JAVA 8 - DEFAULT METHODS

Java 8 introduces a new concept of default method implementation in interfaces. This capability is added for backward compatibility so that old interfaces can be used to leverage the lambda expression capability of Java 8. For example, 'List' or 'Collection' interfaces do not have 'forEach' method declaration. Thus, adding such method will simply break the collection framework implementations. Java 8 introduces default method so that List/Collection interface can have a default implementation of forEach method, and the class implementing these interfaces need not implement the same.

Syntax

```
public interface vehicle {
    default void print(){
        System.out.println("I am a vehicle!");
    }
}
```

Multiple Defaults

With default functions in interfaces, there is a possibility that a class is implementing two interfaces with same default methods. The following code explains how this ambiguity can be resolved.

```
public interface vehicle {
    default void print(){
        System.out.println("I am a vehicle!");
    }
}

public interface fourWheeler {
    default void print(){
        System.out.println("I am a four wheeler!");
    }
}
```

First solution is to create an own method that overrides the default implementation.

```
public class car implements vehicle, fourWheeler {
    default void print(){
        System.out.println("I am a four wheeler car vehicle!");
    }
}
```

Second solution is to call the default method of the specified interface using super.

```
public class car implements vehicle, fourWheeler {
    default void print(){
        vehicle.super.print();
    }
}
```

Static Default Methods

An interface can also have static helper methods from Java 8 onwards.

```
public interface vehicle {
    default void print(){
        System.out.println("I am a vehicle!");
    }

    static void blowHorn(){

```

```
        System.out.println("Blowing horn!!!");
    }
}
```

Default Method Example

Let's see an example to get more clarity on **default method**. Please write the following program in an code editor, understand and verify the results.

Java8Tester.java

```
public class Java8Tester {
    public static void main(String args[]){
        Vehicle vehicle = new Car();
        vehicle.print();
    }
}

interface Vehicle {
    default void print(){
        System.out.println("I am a vehicle!");
    }

    static void blowHorn(){
        System.out.println("Blowing horn!!!");
    }
}

interface FourWheeler {
    default void print(){
        System.out.println("I am a four wheeler!");
    }
}

class Car implements Vehicle, FourWheeler {
    public void print(){
        Vehicle.super.print();
        FourWheeler.super.print();
        Vehicle.blowHorn();
        System.out.println("I am a car!");
    }
}
```

Verify the Result

Compile the class using **javac** compiler as follows –

```
$javac Java8Tester.java
```

Now run the Java8Tester as follows –

```
$java Java8Tester
```

It should produce the following output –

```
I am a vehicle!
I am a four wheeler!
Blowing horn!!!
I am a car!
```