Java 8 Interface: default methods

To enhance Java API with lambda expressions, many existing interfaces needs to be modified.

Adding new methods to interface leads to break the existing implementation.
To avoid this, Java has added default methods to interfaces.

When you add default method to existing interface, it doesn’t break the classes which implements the interface.

Note: Default interfaces concept is strictly meant for backward compatibility. It doesn’t mean you create java application only with interfaces with default methods and not classes.

Java 8 Interface : default method syntax

Default Methods

- Starting from Java SE 8, interfaces can define default methods
- A default method in an interface is a method with implementation
- Use "default " keyword in method signature to make it default.

```
interface xyz {
    default return-type method-name(argument-list) {
        ----------------
        ----------------
    }
}
```

- A class which implements the interface doesn't need to implement default methods

Note : An interface can have more than one default method.

Java 8 Interface : default method rules

Rules for default methods in Interface inheritance:

While extending an Interface having default methods, there are few points to ponder:

1. Child Interface can use the default method of parent interface.

2. Child Interface can re-declare the default method without default keyword to make it abstract.

3. Child Interface can override the default method by keeping the same signature as of parent interface.

Java 8 Interface : static methods

Static Methods

- Along with the default methods an Interface can also have static methods
- The syntax of static method is similar to default method, where static keyword will replace default

```
interface xyz {
    static return-type method-name(argument-list) {
        ----------------
        ----------------
    }
}
```

An interface can have more than one static method

Java 8 Interface : static methods

Both default and static interface method now allows developer to extend the functionality of existing system without breaking the code.

If you are designing the system from scratch, it is recommended not to use these features. However, these features can be handy to modify existing application to add new functionality with ease.

The default and static methods are extensively used by Java SE 8 language developers to add new methods to existing API.

For example, the forEach() default method added to Collection API for iterating elements in collection.

You might use a static method to return data meaningful to interface applications such as a list of product categories or a routing list of departments that should receive a report generated by the interface implementation.

Thank You!