

## Java Interview Q&A on Static Concept

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**What is static keyword in java and different usages?**

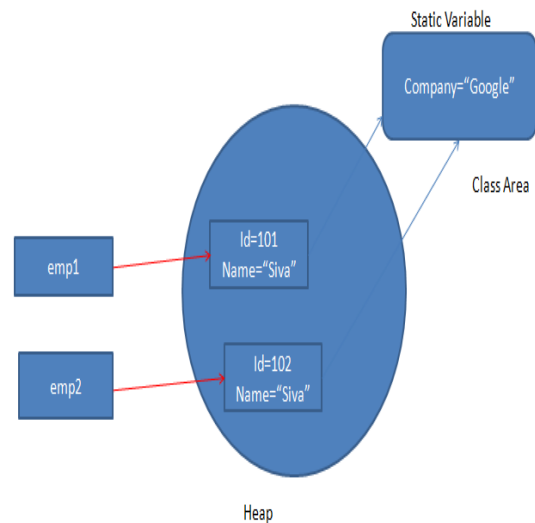
**static keyword** in java is used for memory management

**static can be used in different ways in java programming**

- **Static variable**
- **Static method**
- **Static block**
- **Static Nested classes**

**What is static variable?**

- If you declare any variable as static, it is known static variable
- static variables are shared across all the instances of class
- The static variable gets memory only once in class area at the time of class loading.
- Static variables often used with final keyword. E.g. : public static final String COMPANY="Google"
- We can access static variables using class name ,  
ClassName.staticVarilableName



**What is static method?**

- Static methods are belongs to the class rather than instance
- Static methods can access only static variables
- You can not refer non static variable in static method
- Usually utility methods declared as static method
- static method can access through class name , ClassName.staticMethodName
- static method can access static data member and can change the value of it

**What is static block?**

Static block is a group of statements which gets executed while loading the class into memory

- Static block can be used to initialize the static variables and create the static resource resources. Also to implement complex logics while initializing the static variables.

### What is static nested class?

- A static class that is created inside the Other class is called as static nested class

Example: **class Outer {**  
    **private static String input="Hello";**  
    **static class Inner {**  
        **public void test() {**  
            **System.out.println("Inside static class" + input);**  
        **}**  
    **}**  
**}**

- Static class can access private static variables from outer side class

### Does static variables thread safe?

No, because static variables are belongs to Class rather than instances

### Can we overload static methods?

Yes, we can overload static method

### Can we overload main method in java?

Yes, you can overload java main method but JVM always look for the main method with signature :  
public static void main(String[] args)

### Can we use this or super in static context?

No, We cannot use this/super keyword in static context because this refer to current instance and super refer to parent instance but static refer to Class

### Can we use static variables in Non-static method?

Yes, but reverse is not possible i.e., from static method/block you can not refer non static variables

### Can we override static methods?

Static methods cannot be overridden because they are not part of the object's state. Rather, they belongs to the class (i.e. they are class methods).

### **What is static import?**

Static import is a feature introduced in Java 5. With the help of static import we can access the static members/Methods of a class directly without class name or any object.

Example:

```
import static java.lang.Math.PI;
```

```
import static java.lang.Math.pow;
```

Usage:

Before: `System.out.println(Math.PI*10);`

After : `System.out.println(PI*10);`