

## Static blocks in Java

Unlike C++, Java supports a special block, called static block (also called static clause) which can be used for static initializations of a class. This code inside static block is executed only once: the first time you make an object of that class or the first time you access a static member of that class (even if you never make an object of that class). For example, check output of following Java program.

```
// filename: Main.java
class Test {
    static int i;
    int j;

    // start of static block
    static {
        i = 10;
        System.out.println("static block called ");
    }
    // end of static block
}

class Main {
    public static void main(String args[]) {

        // Although we don't have an object of Test, static block is
        // called because i is being accessed in following statement.
        System.out.println(Test.i);
    }
}
```

Output:

*static block called*

*10*

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Also, static blocks are executed before constructors. For example, check output of following Java program.

```
// filename: Main.java
class Test {
    static int i;
    int j;
    static {
        i = 10;
        System.out.println("static block called ");
    }
    Test() {
        System.out.println("Constructor called");
    }
}

class Main {
    public static void main(String args[]) {

        // Although we have two objects, static block is executed only once
        Test t1 = new Test();
        Test t2 = new Test();
    }
}
```

Output:

*static block called*  
*Constructor called*  
*Constructor called*

References:

[Thinking in Java Book](#)

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To be precise, JVM executes the Static Blocks associated with a Java Class v  
opposed to creating an instance of that class or accesssing static member of  
reasons also for loading of a class.

Static Blocks are an effective way to do one-time initialization for example, you  
Singleton class or any other such stuff.

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It is good to learn basics of static block. From the virtual machine perspective being initialized?

For example in C++, the startup library is responsible to initialize such static variables. Just out of curiosity.

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**Aagraj** → Venki • 3 years ago

@Venki

Class data can be instance specific or class specific. Instance specific (objects) are initialized when you create an object of that class.

On the other hand, class specific data (or static members shared by a class) is loaded by JVM and hence static blocks are an easy way to do

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