

JAVA PROGRAMMING COURSE

EXERCISE

GENERIC IN JAVA

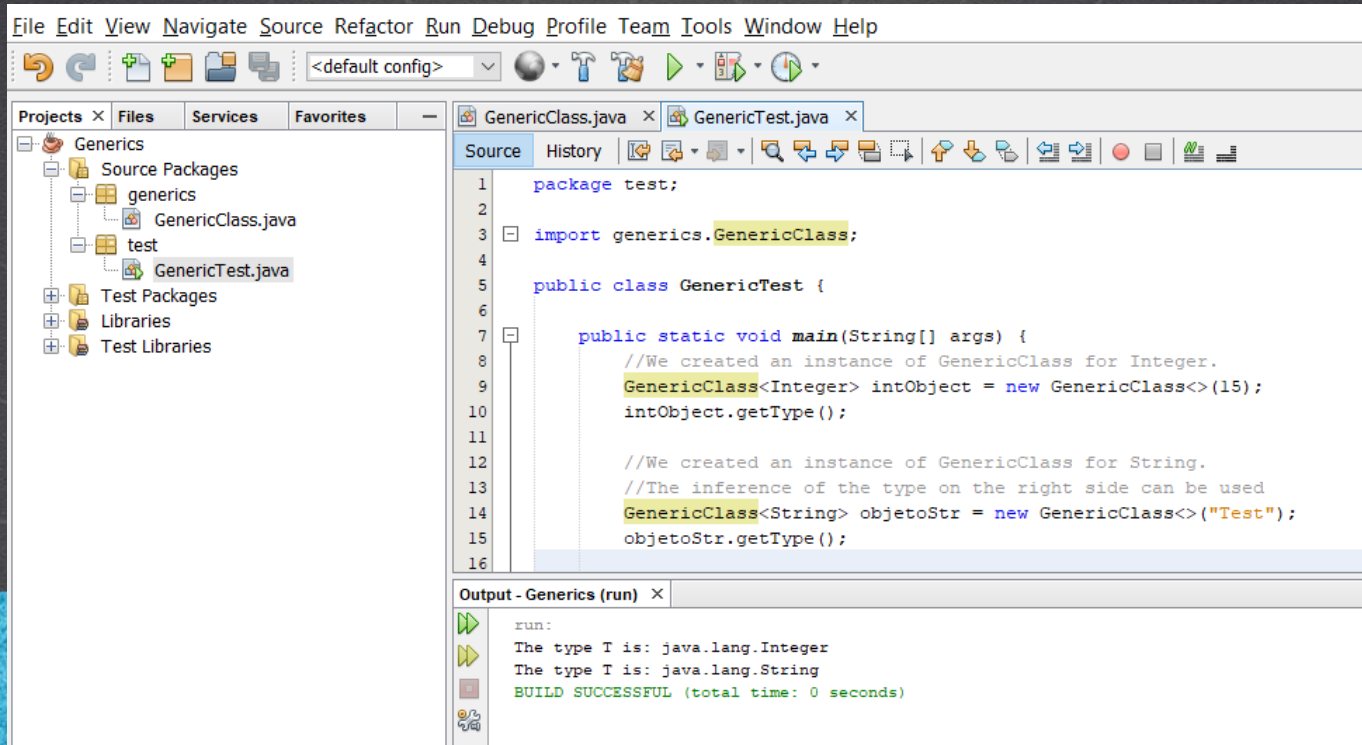


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EXERCISE OBJECTIVE

Create the Generics exercise. At the end we should observe the following:



1. CREATE A NEW PROJECT

Create a new project:

New Java Application

Steps

1. Choose Project
2. **Name and Location**

Name and Location

Project Name:

Project Location:

Project Folder:

☐ Use Dedicated Folder for Storing Libraries

Libraries Folder:

Different users and projects can share the same compilation libraries (see Help for details).

☐ Create Main Class

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2. CREATE A NEW CLASS

Create a new class:

New Java Class

Steps

1. Choose File Type
2. **Name and Location**

Name and Location

Class Name:

Project:

Location:

Package:

Created File:

< Back Next > **Finish** Cancel Help

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3. MODIFY THE CODE

GenericsClass.java:

```
package generics;

//We define a generic class with the diamond operator <>
public class GenericClass<T>{

    //We define a variable of generic type
    T object;

    //Constructor that initializes the type to be used
    public GenericClass(T object) {
        this.object = object;
    }

    public void getType() {
        System.out.println("The type T is: " + object.getClass().getName());
    }
}
```

4. CREATE A NEW CLASS

Create a new class:

New Java Class

Steps

1. Choose File Type
2. **Name and Location**

Name and Location

Class Name:

Project:

Location:

Package:

Created File:

< Back Next > **Finish** Cancel Help

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5. MODIFY THE CODE

GenericTest.java:

```
package test;

import generics.GenericClass;

public class GenericTest {

    public static void main(String[] args) {
        //We created an instance of GenericClass for Integer.
        GenericClass<Integer> intObject = new GenericClass<>(15);
        intObject.getType();

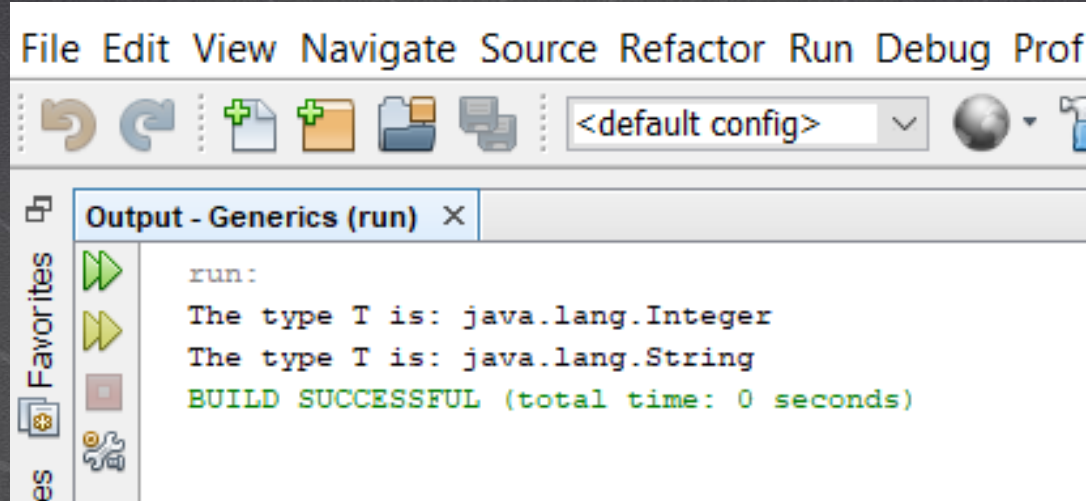
        //We created an instance of GenericClass for String.
        //The inference of the type on the right side can be used
        GenericClass<String> objetoStr = new GenericClass<>("Test");
        objetoStr.getType();

        //Generics can not be applied to primitive types
        //So this would mark a compilation error
        //GenericClass<int> intPrimitivo = new GenericClass<>(88);

    }
}
```


6. EXECUTE THE PROJECT

The result is as follow:



EXERCISE CONCLUSION

- With this exercise we have put into practice the basic management of generic types in Java.
- For more information consult:
 - <https://docs.oracle.com/javase/tutorial/java/generics/index.html>



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