



Java HashSet

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Java HashSet

A HashSet is a collection of items where every item is unique, and it is found in the `java.util` package:

Example

Create a `HashSet` object called **`cars`** that will store strings:

```
import java.util.HashSet; // Import the HashSet class

HashSet<String> cars = new HashSet<String>();
```

Add Items

The `HashSet` class has many useful methods. For example, to add items to it, use the `add()` method:

Example

```
// Import the HashSet class
import java.util.HashSet;

public class Main {
    public static void main(String[] args) {
        HashSet<String> cars = new HashSet<String>();
        cars.add("Volvo");
        cars.add("BMW");
        cars.add("Ford");
        cars.add("BMW");
        cars.add("Mazda");
        System.out.println(cars);
    }
}
```

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Note: In the example above, even though BMW is added twice it only appears once in the set because every item in a set has to be unique.

Check If an Item Exists

To check whether an item exists in a HashSet, use the `contains()` method:

Example

```
cars.contains("Mazda");
```

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Remove an Item

To remove an item, use the `remove()` method:

Example

```
cars.remove("Volvo");
```

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To remove all items, use the `clear()` method:

Example

```
cars.clear();
```

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HashSet Size

To find out how many items there are, use the `size` method:

Example

```
cars.size();
```

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Loop Through a HashSet

Loop through the items of an `HashSet` with a **for-each** loop:

Example

```
for (String i : cars) {  
    System.out.println(i);  
}
```

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Other Types

Items in an `HashSet` are actually objects. In the examples above, we created items (objects) of type "String". Remember that a String in Java is an object (not a primitive type). To use other types, such as int, you must specify an equivalent wrapper class: `Integer`. For other primitive types, use: `Boolean` for boolean, `Character` for char, `Double` for double, etc:

Example

Use a `HashSet` that stores `Integer` objects:

```
import java.util.HashSet;

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

        // Create a HashSet object called numbers
        HashSet<Integer> numbers = new HashSet<Integer>();

        // Add values to the set
        numbers.add(4);
        numbers.add(7);
        numbers.add(8);

        // Show which numbers between 1 and 10 are in the set
        for(int i = 1; i <= 10; i++) {
            if(numbers.contains(i)) {
                System.out.println(i + " was found in the set.");
            } else {
                System.out.println(i + " was not found in the set.");
            }
        }
    }
}
```

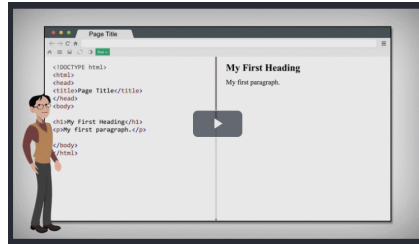
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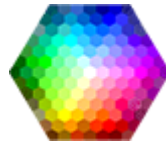
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