



util.date class methods in Java with Examples

Last Updated : 08 Sep, 2021



Following are some important date class methods :

1. **.toString() : java.util.Date.toString()** method is a java.util.Date class method. It displays the Current date and time.

Here Date object is converted to a string and represented as:

day mon dd hh:mm:ss zz yyyy

day : day of the week

mon : month

dd : day of the month

hh : hour

mm : minute

ss : second

zz : time zone

yyyy : year upto 4 decimal places

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Got It !

Syntax:

```
public String toString()
```

Return:

a string representation of the given date.

2. **.setTime() : java.util.Date.setTime()** method is a java.util.Date class method. Sets this Date object to represent a point in time that is time milliseconds after January 1, 1970 00:00:00 GMT.

Syntax:

```
public void setTime(long time)
```

Parameters:

time : the number of milliseconds.

3. **.hashCode() : java.util.Date.hashCode()** method is a java.util.Date class method. Returns a hash code value for the Date object. The result is exclusive OR of the two halves of the primitive long value returned by the getTime() method.

Syntax:

```
public int hashCode()
```

Return:

a hash code value for the Date object.

Java Code to illustrate the use of .toString(), setTime(), hashCode() methods.

```
// Java Program explaining util.date class methods//
// use of .toString(), setTime(), hashCode() methods
import java.util.*; // class having access to Date class methods

public class NewClass
{
    public static void main(String[] args)
    {
        Date mydate = new Date();

        // Displaying the current date and time
        System.out.println("System date : "+ mydate.toString() );

        // To reset the time by milliseconds. Add 45000
```

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```

        System.out.println("Time after setting:  " + mydate.toString());

        int d = mydate.hashCode();
        System.out.println("Amount (in ms) by which time" +
                           " is shifted :  " + d);
    }
}

```

Output of Java code:

```

System date : Tue Nov 01 02:37:18 IST 2016
Time after setting: Thu Jan 01 05:30:15 IST 1970
Amount (in milliseconds) by which time is shifted : 15680

```

4. **.after() : java.util.Date.after()** method tests if current date is after the given date.

Syntax:

```
public boolean after(Date d)
```

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Return:

true if and only if the instant represented by this Date object is strictly later than the instant represented by 'when'; else false

Exception:

NullPointerException - if Date object is null.

5. **.clone() : java.util.Date.clone()** method returns the duplicate of passed Date object.

Syntax:

```
public Object clone()
```

Return:

a clone of this instance.

6. **.before() : java.util.Date.after()** method tests if current date is before the given date.

d : date

Return:

true if and only if the instant represented by this Date object is strictly earlier than the instant represented by 'when'; else false

Exception:

NullPointerException - if when is null.

Java Code to illustrate the use of after(), clone(), before() methods.

```
// JAVA program explaining Date class methods
// after(), clone(), before()
import java.util.Date;
public class NewClass
{
    public static void main(String[] args)
    {
        // create 2 dates
        Date date1 = new Date(2016, 11, 18);
        Date date2 = new Date(1997, 10, 27);

        // Use of after() to check date2 is after date1
        boolean a = date2.after(date1);
        System.out.println("Is date2 is after date1 : " + a);

        // Use of after() to check date2 is after date1
        a = date1.after(date2);
        System.out.println("Is date1 is after date2 : " + a);
        System.out.println("");

        // Use of clone() method
        Object date3 = date1.clone();
        System.out.println("Cloned date3 : " + date3.toString());
        System.out.println("");

        // Use of before() to check date2 is after date1
        boolean b = date2.before(date1);
        System.out.println("Is date2 is before date1 : " + a);
    }
}
```

Output :

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Cloned date3 :Mon Dec 18 00:00:00 IST 3916

Is date2 is before date1 : true

7. **.compareTo() : java.util.Date.compareTo()** method compares two dates and results in -1, 0 or 1 based on the comparison.

Syntax:

```
public int compareTo(Date argDate)
```

Parameters:

argDate : another date to compare with

Result:

0 : if the argumented date = given date.
-1 : if the argumented date > given date.
1 : if the argumented date < given date.

8. **.equals() : java.util.Date.equals()** method checks whether two dates are equal or not based on their millisecond difference.

Syntax:

```
public boolean equals(Object argDate)
```

Parameters:

argDate : another date to compare with

Result:

true if both the date are equal; else false.

9. **.getTime() : java.util.Date.getTime()** method results in count of milliseconds of the argumented date, referencing January 1, 1970, 00:00:00 GMT.

Syntax:

```
public long getTime()
```

Result:

milliseconds of the argumented date, referencing January 1, 1970, 00:00:00 GMT.

Java Code to illustrate the use of compareTo(), getTime(), equals() methods.

```

public class NewClass
{
    public static void main(String[] args)
    {
        Date d1 = new Date(97, 10, 27);
        Date d2 = new Date(97, 6, 12);

        // Use of compareTo() method
        int comparison = d1.compareTo(d2);    // d1 > d2
        int comparison2 = d2.compareTo(d1);    // d2 > d1
        int comparison3 = d1.compareTo(d1);    // d1 = d1

        System.out.println("d1 > d2 : " + comparison);
        System.out.println("d1 < d2 : " + comparison2);
        System.out.println("d1 = d1 : " + comparison3);
        System.out.println("");

        // Use of equal() method
        boolean r1 = d1.equals(d2);
        System.out.println("Result of equal() r1 : " + r1);

        boolean r2 = d1.equals(d1);
        System.out.println("Result of equal() r2 : " + r2);
        System.out.println("");

        // Use of getTime() method
        long count1 = d1.getTime();
        long count2 = d1.getTime();
        System.out.println("Milliseconds of d1 : " + count1);
        System.out.println("Milliseconds of d2 : " + count2);
    }
}

```

Output :

```

d1 > d2 : 1
d1 < d2 : -1
d1 = d1 : 0

```

Result of equal() r1 : false

Result of equal() r2 : true

Milliseconds of d1 : 880569000000

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