# How to convert String to Date - Java

By mkyong (https://www.mkyong.com/author/mkyong/) | July 7, 2013 | Updated : March 10, 2017 | Viewed : 994,598 times +4,531 pv/w

In this tutorial, we will show you how to convert a String to <code>java.util.Date</code> . Many Java beginners are stuck in the Date conversion, hope this summary guide will helps you in some ways.

```
// String -> Date
SimpleDateFormat.parse(String);

// Date -> String
SimpleDateFormat.format(date);
```

Refer to table below for some of the common date and time patterns used in <code>java.text.SimpleDateFormat</code>, refer to this <code>JavaDoc</code> (http://docs.oracle.com/javase/8/docs/api/java/text/SimpleDateFormat.html)

Letter	Description	Examples
у	Year	2013
М	Month in year	July, 07, 7
d	Day in month	1-31
E	Day name in week	Friday, Sunday
а	Am/pm marker	AM, PM
Н	Hour in day	0-23
H h	Hour in day Hour in am/pm	0-23 1-12
	·	

### Note

You may interest at this Java 8 example – How to convert String to LocalDate (http://www.mkyong.com/java8/java-8-how-to-convert-string-to-localdate/)

# 1. String = 7-Jun-2013

If 3 'M', then the month is interpreted as text (Mon-Dec), else number (01-12).

TestDateExample1.java

```
package com.mkyong.date;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
public class TestDateExample1 {
    public static void main(String[] argv) {
        SimpleDateFormat formatter = new SimpleDateFormat("dd-MMM-yyyy");
        String dateInString = "7-Jun-2013";
        try {
            Date date = formatter.parse(dateInString);
            System.out.println(date);
            System.out.println(formatter.format(date));
        } catch (ParseException e) {
            e.printStackTrace();
    }
}
```

#### Output

```
Fri Jun 07 00:00:00 MYT 2013
07-Jun-2013
```

# 2. String = 07/06/2013

```
TestDateExample2.java
package com.mkyong.date;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
public class TestDateExample2 {
    public static void main(String[] argv) {
        SimpleDateFormat formatter = new SimpleDateFormat("dd/MM/yyyy");
       String dateInString = "07/06/2013";
        try {
           Date date = formatter.parse(dateInString);
           System.out.println(date);
            System.out.println(formatter.format(date));
        } catch (ParseException e) {
            e.printStackTrace();
    }
}
```

### Output

```
Fri Jun 07 00:00:00 MYT 2013
07/06/2013
```

# 3. String = Fri, June 7 2013

```
TestDateExample3.java
package com.mkyong.date;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
public class TestDateExample3 {
    public static void main(String[] argv) {
        SimpleDateFormat formatter = new SimpleDateFormat("E, MMM dd yyyy");
       String dateInString = "Fri, June 7 2013";
        try {
            Date date = formatter.parse(dateInString);
            System.out.println(date);
            System.out.println(formatter.format(date));
        } catch (ParseException e) {
            e.printStackTrace();
    }
```

### Output

```
Fri Jun 07 00:00:00 MYT 2013
Fri, Jun 07 2013
```

# 4. String = Friday, Jun 7, 2013 12:10:56 PM

```
TestDateExample4.java
```

```
package com.mkyong.date;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
public class TestDateExample4 {
    public static void main(String[] argv) {
        SimpleDateFormat formatter = new SimpleDateFormat("EEEE, MMM dd, yyyy HH:mm:ss a");
        String dateInString = "Friday, Jun 7, 2013 12:10:56 PM";
        try {
            Date date = formatter.parse(dateInString);
            System.out.println(date);
            System.out.println(formatter.format(date));
        } catch (ParseException e) {
            e.printStackTrace();
    }
}
```

#### Output

```
Fri Jun 07 12:10:56 MYT 2013
Friday, Jun 07, 2013 12:10:56 PM
```

### 5. String = 2014-10-05T15:23:01Z

Z suffix means UTC, java.util.SimpleDateFormat doesn't parse it correctly, you need to replace the suffix Z with '+0000'.

```
TestDateExample5.java
package com.mkyong.date;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
public class TestDateExample5 {
    public static void main(String[] argv) {
        SimpleDateFormat formatter = new SimpleDateFormat("yyyy-MM-dd'T'HH:mm:ssZ");
       String dateInString = "2014-10-05T15:23:01Z";
        try {
            Date date = formatter.parse(dateInString.replaceAll("Z$", "+0000"));
            System.out.println(date);
            System.out.println("time zone : " + TimeZone.getDefault().getID());
            System.out.println(formatter.format(date));
        } catch (ParseException e) {
            e.printStackTrace();
    }
}
```

Output

```
Sun Oct 05 23:23:01 MYT 2014
time zone : Asia/Kuala_Lumpur
2014-10-05T23:23:01+0800
```

In Java 8, you can convert it into a java.time.Instant object, and display it with a specified time zone.

```
TestDateExample6.java
package com.mkyong.date;
import java.time.*;
public class TestDateExample6 {
    public static void main(String[] argv) {
        String dateInString = "2014-10-05T15:23:01Z";
        Instant instant = Instant.parse(dateInString);
        System.out.println(instant);
        //get date time only
        LocalDateTime result = LocalDateTime.ofInstant(instant, ZoneId.of(ZoneOffset.UTC.getId()));
        System.out.println(result);
        //get date time + timezone
        ZonedDateTime zonedDateTime = instant.atZone(ZoneId.of("Africa/Tripoli"));
        System.out.println(zonedDateTime);
        //get date time + timezone
        ZonedDateTime zonedDateTime2 = instant.atZone(ZoneId.of("Europe/Athens"));
        System.out.println(zonedDateTime2);
    }
}
```

#### Output

```
2014-10-05T15:23:01Z
2014-10-05T15:23:01
2014-10-05T17:23:01+02:00[Africa/Tripoli]
2014-10-05T18:23:01+03:00[Europe/Athens]
```

## References

- 1. SimpleDateFormat JavaDoc (http://docs.oracle.com/javase/7/docs/api/java/text/SimpleDateFormat.html)
- 2. Java 8 How to convert String to LocalDate (http://www.mkyong.com/java8/java-8-how-to-convert-string-to-localdate/)
- 3. Stackoverflow: simpledateformat parsing date with 'Z' literal (http://stackoverflow.com/questions/2580925/simpledateformat-parsing-date-with-z-literal)
- 4. Wikipedia: ISO 8601 (https://en.wikipedia.org/wiki/ISO\_8601)
- 5. Time Zone and Offset Classes (https://docs.oracle.com/javase/tutorial/datetime/iso/timezones.html)
- 6. GMT VS UTC (http://www.diffen.com/difference/GMT\_vs\_UTC)
- 7. What is a Time Zone? (http://www.timeanddate.com/time/what-is-a-time-zone.html)
- 8. Joda Time (http://www.joda.org/joda-time/)

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Founder of Mkyong.com (http://mkyong.com), love Java and open source stuff. Follow him on Twitter (https://twitter.com/mkyong), or befriend him on Facebook (http://www.facebook.com/java.tutorial) or Google Plus

(https://plus.google.com/110948163568945735692?rel=author). If you like my tutorials, consider make a donation to these charities (http://www.mkyong.com/blog/donate-to-charity/).

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### Faith Khumalo

Hi I have a requirement to convert DateofBirth, StartDate and TerminationDate fields in a file with about 100 lines. The current date format is 00.00.0000 and the requirement is 00/00/0000.



② 3 months 29 days ago



#### Aashish Soni

Hello Sir,

Guest

Can you please guide me here -

import java.util.\*;

import java.text.DateFormat;

 $import\ java.text. Parse Exception;$ 

 $import\ java.text. Simple Date Format;$ 

```
How to convert String to Date - Java
 /*Java date format issue
 Input- 2016-11-23 23:38:03.850454 having milisec and nano in format
 output-20161123233803850454 in format YYYYMMDDHHmmssSSSSSS
 my output- 201612361235213000454 which is incorrect, need help
 public class TestingDate
 public static void main(String[] args) throws ParseException
 TestingDate obj = new TestingDate();
 System.out.println(obj.check("2016-11-23 23:38:03.850454"));
 public String check(String string) throws ParseException
 String dateStr = string;
 DateFormat srcDf = new SimpleDateFormat("YYYY-MM-DD HH:mm:ss.SSSSSS");
 Date date = srcDf.parse(dateStr);
 DateFormat destDf = new SimpleDateFormat("YYYYMMDDHHmmssSSSSSS");
 dateStr = destDf.format(date);
 return dateStr;
 }
 }
               REPLY

⊙ 5 months 4 days ago
∧

          Aashish Soni
         I also tried this-
         String dateStr = "2016-11-23 23:38:03.850454";
Guest
         DateFormat srcDf = new SimpleDateFormat("yyyy-MM-dd HH:mm:ss.SSSSSS");
         Date date = srcDf.parse(dateStr);
         DateFormat destDf = new SimpleDateFormat("yyyyMMddHHmmssSSSSSS");
         dateStr = destDf.format(date);
         output- 20161123235213000454 — getting zero in place of 850
         I also heard about JODA api but dont know how it gona help.

    5 months 4 days ago

  Willy Makend
 Very clean
               REPLY

② 6 months 29 days ago

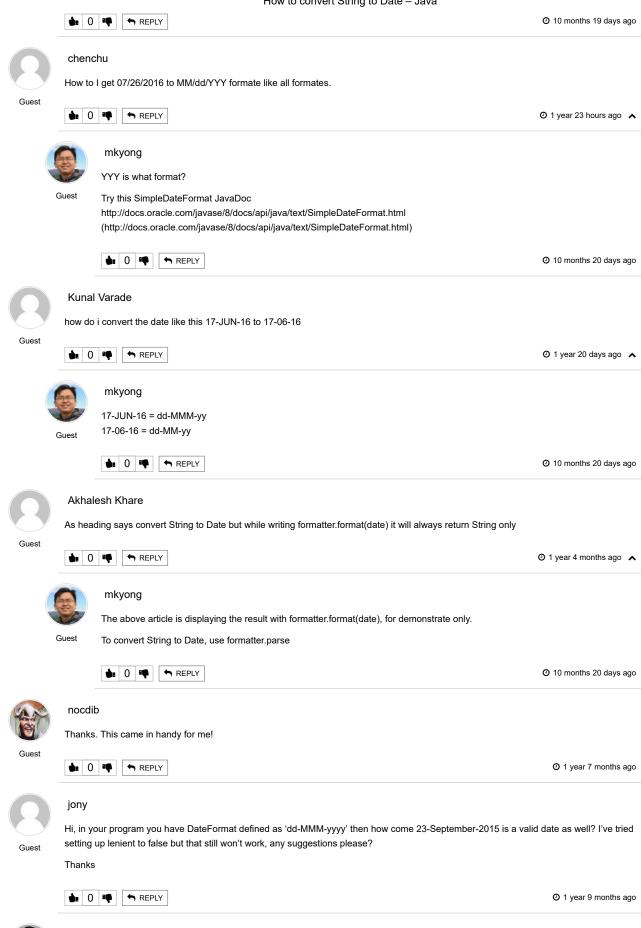
  Nilesh Akhade
 5th example is exactly what I was looking for. But it does not cover the need "How to convert date of any format with timezone info into
 Instant". Example only converts strings in the format DateTimeFormatter.ISO_INSTANT.
 How should I convert date string from http header to java.util.Date? I am using DateTimeFormatter.RFC_1123_DATE_TIME.
  1 0
               REPLY
                                                                                                              ② 8 months 3 days ago
  Nat Gross
 Concise and clear.
 Thanks!
  1 0
               REPLY
                                                                                                            2 10 months 18 days ago
```



Guest

Guest

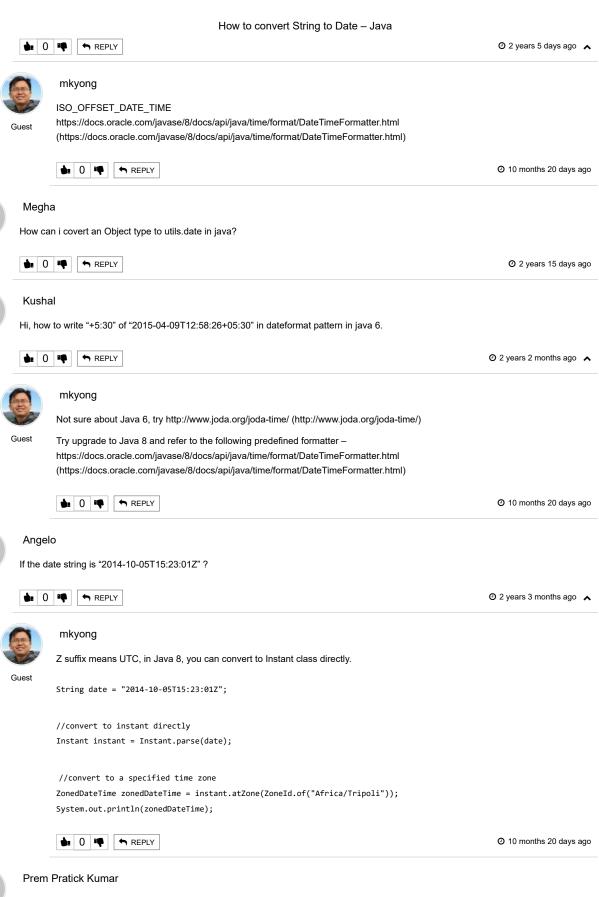
Java 8 - How to convert String to LocalDate (http://www.mkyong.com/java8/java-8-how-to[...] Related – How to convert String to java.util.Date in Java [...] convert-string-to-localdate/)





senthil

[2015-06-25T12:51:43-04:00] which format





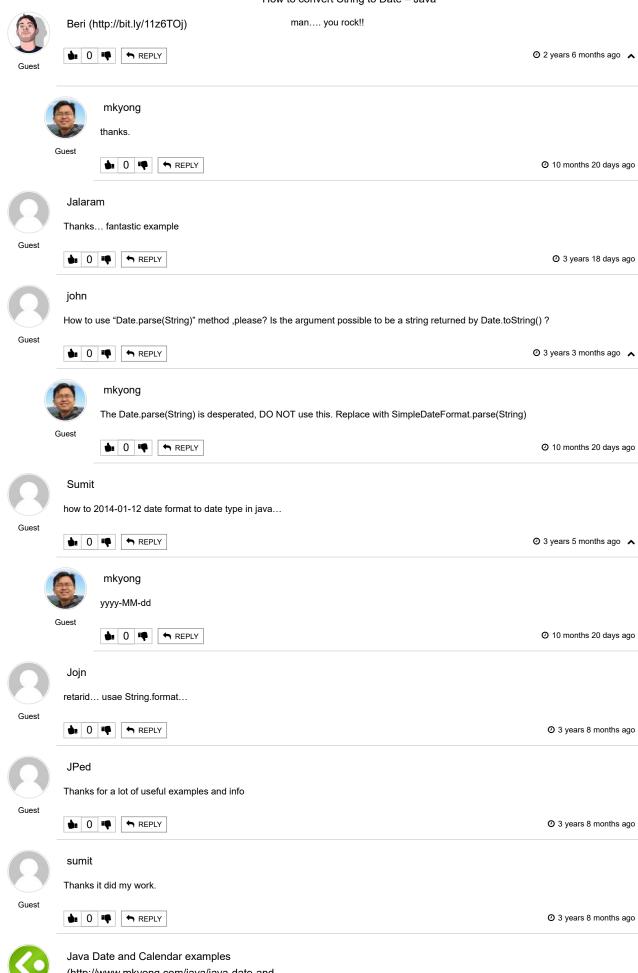
Guest

Guest

Very helpful Prem Pratick Kumar

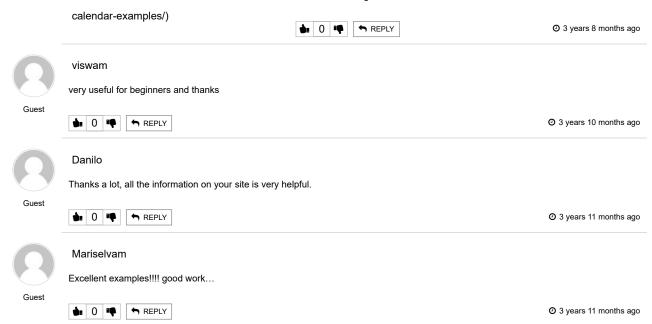


2 years 3 months ago



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