



Date and Time

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INTRODUCTION

Date and Time



OBJECTIVES

Date and Time



LEARNING OBJECTIVES

At the end of this lesson, you will be able to:

- List the Date related classes
- Work with DateFormat class





Locale class

- A Locale object represents a specific geographical, political, or cultural region.
- An operation that requires a Locale to perform its task is called locale-sensitive and uses the Locale to tailor information for the user.
- For example, displaying a Date is a locale-sensitive operation— the Date should be formatted according to the customs and conventions of the user's native country, region, or culture.



Locale Class

- The Locale class is used for worldwide denomination
 - DateFormat class can use an instance of Locale to customize formatted o



Introduction to Date (1/2)

Java API provides an extensive set of classes to work with dates, numbers and currencies

Few date related classes

- **java.util.Date**
 - This class is used to bridge between the Calendar and DateFormat class
 - An instance of Date represents a mutable date and time, to a millisecond
- **java.util.Calendar**
 - Provides a huge variety of methods that help to convert and manipulate dates and times
- **java.text.DateFormat**
 - Used to format dates in various styles such as "01/01/70" or "January 1, 1970"
 - Used to format dates for numerous locales around the world



Introduction to Date (2/2)

- **java.text.NumberFormat**
Used to format numbers and currencies for numerous locales
- **java.util.Locale**
 - Used in conjunction with DateFormat to format dates for specific locales
 - Used in conjunction with NumberFormat to format numbers and currency for specific locales



Date

- Class Date represents a specific instant in time, with millisecond precision
- The no-arg constructor of date class returns the current date and time
- The methods of date can be used to display, manipulate the date and time

Methods

- after(Date d)
 - Tests if this date is after the specified date
- before(Date d)
 - Tests if this date is before the specified date
- getTime()
 - Returns the number of milliseconds since January 1, 1970
- setTime(long time)
 - Sets this Date object to represent number of milliseconds after January 1, 1970



The Calendar Class

- Calendar is an **abstract** class that has many fields and methods to display and manipulate calendar instance

```
Calendar ca = new Calendar();  
//illegal, Calendar is abstract
```

- In order to create a Calendar instance, use one of the overloaded getInstance() static methods
`Calendar ca = Calendar.getInstance();`
- Calendar reference variable (ca) is referring to an instance of a concrete subclass of Calendar, `java.util.GregorianCalendar`



DateFormat Class

- DateFormat is an abstract class
- It belongs to java.text.DateFormat Package
- Use two factory methods, `getInstance()` and `getDateInstance()` to format dates
- The `format()` method is used to create Strings representing the properly formatted versions of the Date
- The static fields like `SHORT`, `MEDIUM`, `LONG`, `FULL` represents a formatting style



Some more DateFormat method

parse() Method

- Takes a String formatted in the style of the DateFormat instance being used, and converts the String into a Date object
- parse() can throw a ParseException



2. Method `getTime()` belongs to

- ☐ Date class
- ☐ Calendar class
- ☐ DateFormat class
- ☐ Locale class





SUMMARY

Date and Time in Java



SUMMARY



In this lesson, you've learned to:

- Java API provides an extensive set of classes to work with dates, numbers and currencies.
- Calendar is an **abstract** class that has many fields and methods to display and manipulate calendar instance.