Java Date Time in Java 8

java 1.0	java.util.Date;java.text.Format
java 1.2	java.util.Calendar
java 8	java.time.*

java 8 classes: LocalDate, LocalTime, LocalDateTime, Month (1-12), Period, Duration

Creating Dates and Times

static of()	Overriden by LocalData, LocalTime and LocalDateTime
LocalDate.of(y,m.d);	m: int or Month(1-12)
LocalTime.of(h,mi,s,ns)	ns: nano second
LocalDateTime.of(y,m,-d,h,mi,s,ns)	LocalDateTime.of(d,t)
static now()	Overriden by LocalData, LocalTime and LocalDateTime
static parse(s,f)	Overriden by LocalData, LocalTime and LocalDateTime
LocalDateTime.parse(s,f)	f must be DateTimeFormatter

LocalDate d= new LocalDate() //not compiled
LocalDate d= LocalDate.of(2015,2,30); //not compile

Manipulating Dates and Times

plusXxx(int)
minusXxx(int)
return new immutable, original not changed, like String
chain of method on date and time
getXxx(); //Xxx= DayOfWeek,DayOfYear, Month, Year
dt1.isBefore(dt2)
dt1.isAfter(dt2)

Xxx= Years / Months /Days/Hours/Minutes/Seconds/Nanos;
Java 8 date & time are immutable, like String objects.

Peroid and Duration

java.time.Period; Java.time.Duration;

4 ways to create a period

Period.ofXxx(int); //Xxx=Years,Months,Days
Period.of(int years,int months, int days);
Period.between (d1,d2)
Period.parse("P1Y2M3W4D");//same as Period.of(1, 2, 25)

Modify period

plusXxx(int); //Days|Weeks|Months|Years
minusXxx(int)

Use period

dt.plus/minnus(period);
d.plus/minus(period);
time.plus/minus(duration); //if input period, UnsupportedTemporalTypeException

Chain of Periods method does not make sense and raise compiler error

Formatting

2 methods to create a formatter

`DateTimeFormatter f=DateTimeFormatter.ofXxx` (FormatStyle.SHORT|MEDIUM|LONG|FULL);

`DateTimeFormatter f=DateTimeFormatter.ofPattern` ("yyyy-MMMM-dd hh:mm:ss"); //M 1 MM 01 MMM Jan MMMM January

Standard formatter:

DateTimeFormatter.ISO_LOCAL_DATE/TIME/DATETIME
ISO_LOCAL_DATETIME: '2011-12-03T10:15:30'

3 ways to use formatter

f.format(date/time/datetime_obj);
date/time/datetime_obj.format(f);
LocalDate/Time/DateTime.parse(String s, DateTimeFormatter f);

1 Xxx = LocalizedDate, LocalizedTime,LocalizedDateTime
2 date and time format legal for datatime object, datatime format not legal for date or time object