

Solving Tasks with Dates and Times



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Software Developer in Test

Overview



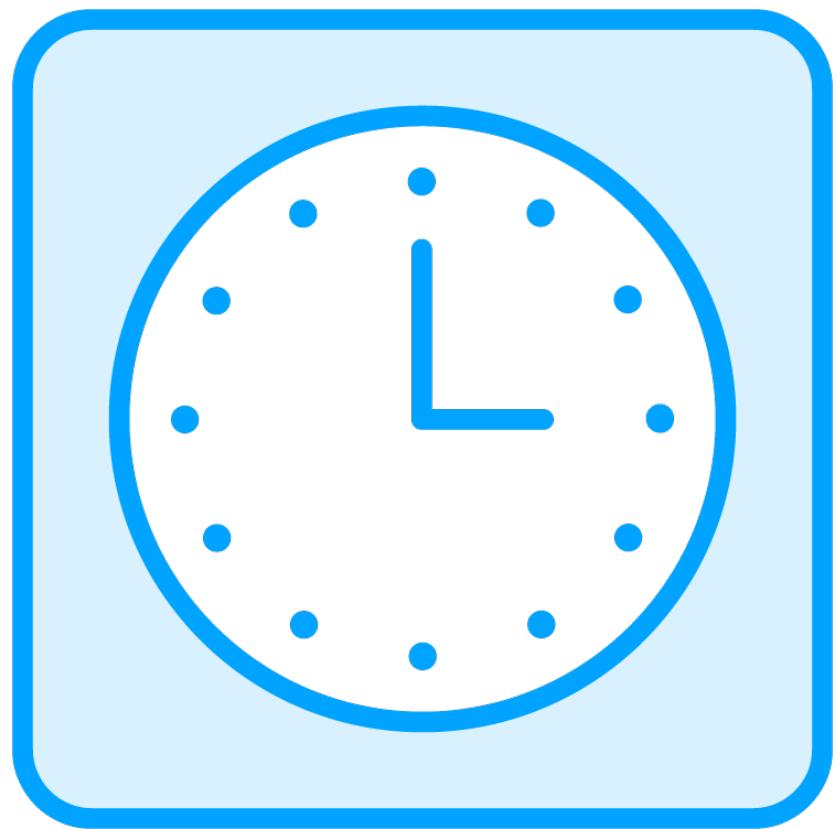
Dates only

Date and time

Concept of time zones



Date Time API



Since Java 8
Big and complex



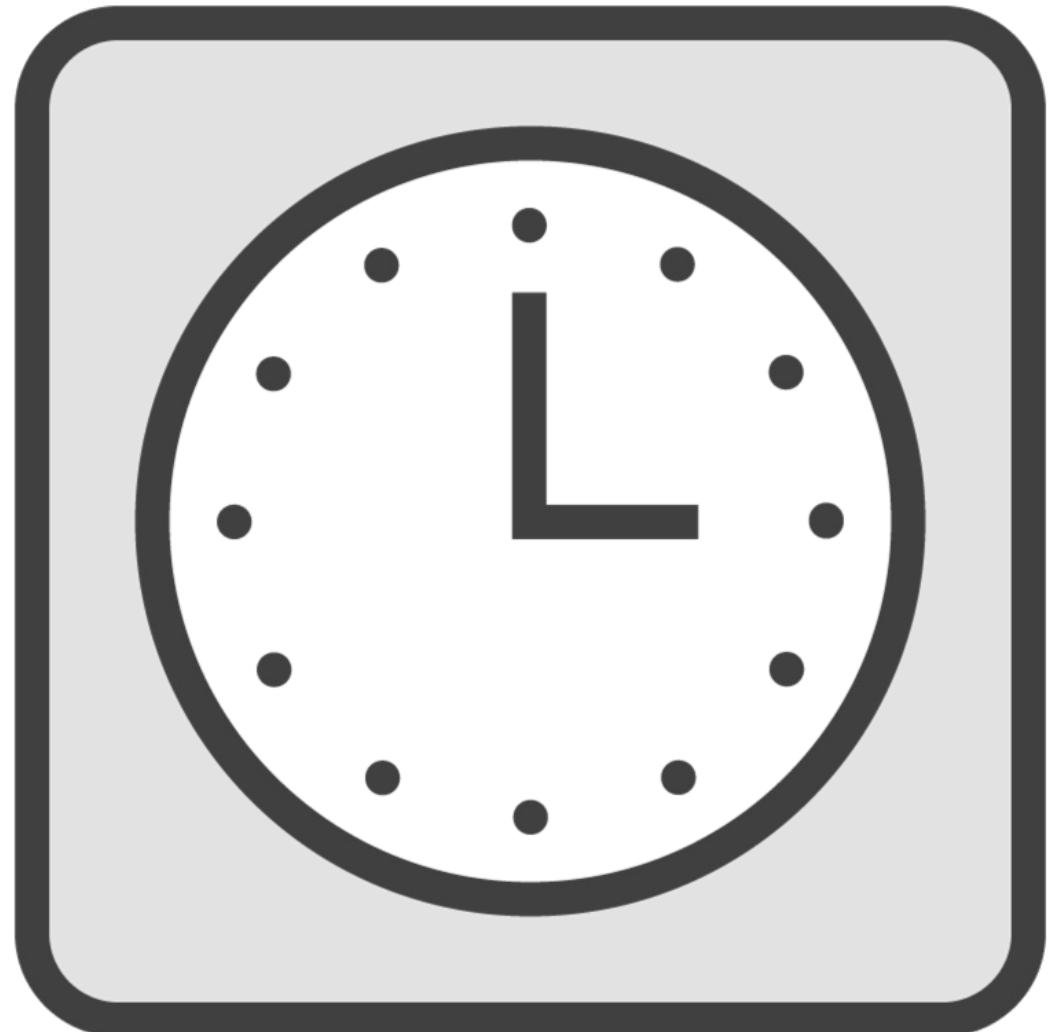


LocalDate.java

Birthday:

- Yes: 2nd of July
- No: 2nd of July at 5am,
New York Time Zone



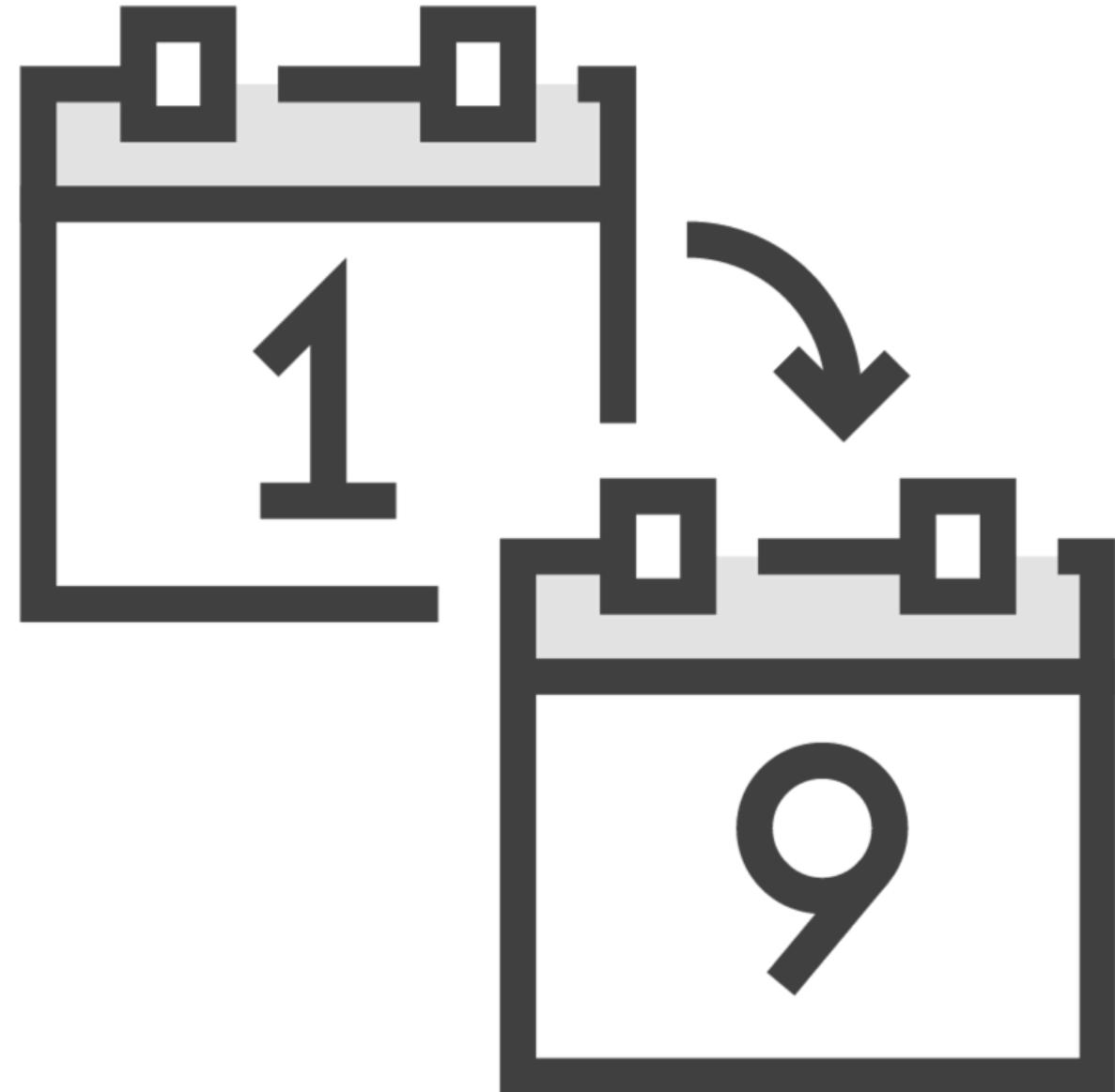


Lunch:

- Same day and place
(time zone)

LocalTime.java





Lunch:

- Tomorrow at 17:00
- Need both date and time

LocalDateTime.java





- Meeting with international colleagues
- Flight across time zones

Zoneld.java

ZonedDateTime.java



2022-04-18

T

21:46:17

+ 02:00 [Europe/Prague]

LocalDate

LocalTime



2022-04-18 T 21:46:17

+ 02:00 [Europe/Prague]

LocalDate

LocalTime

LocalDateTime



2022-04-18 T 21:46:17 + 02:00 [Europe/Prague]

LocalDate

LocalTime

ZonedDateTime

LocalDateTime

ZonedDateTime

1st of Jan, 1970

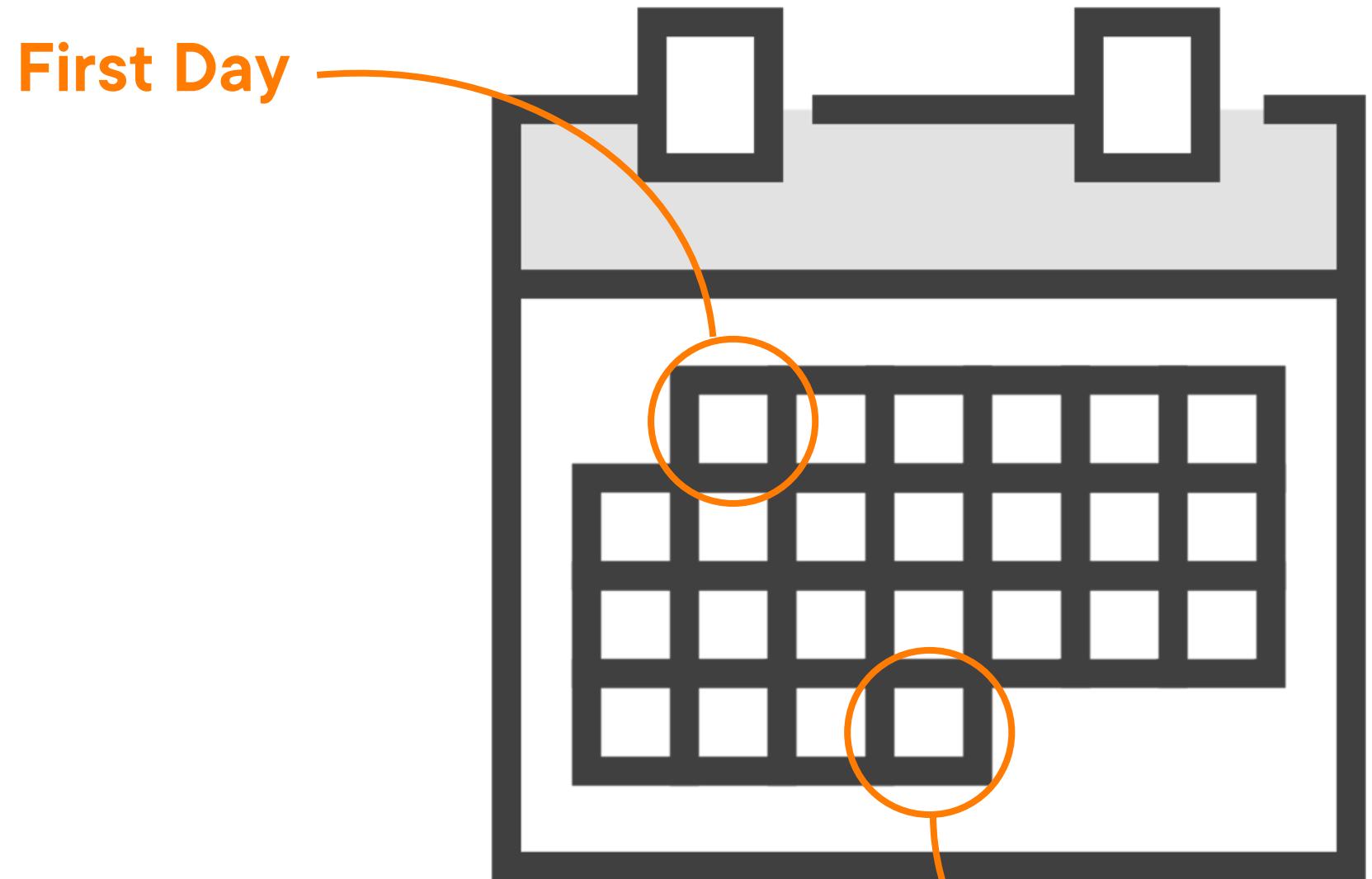
Instant.java



```
Instant.now().toEpochMilli();
```

```
System.currentTimeMillis();
```





First Day

Last Day



```
interface TemporalAdjuster {  
}  
  
class TemporalAdjusters {  
    TemporalAdjuster firstDayOfMonth();  
    TemporalAdjuster lastDayOfMonth();  
    // ...  
}
```

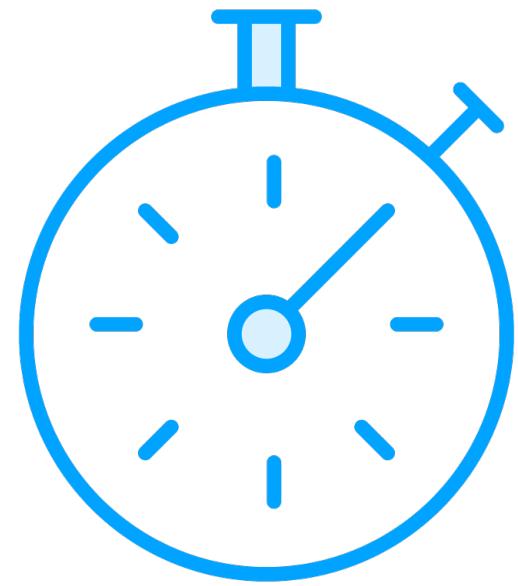


```
Date oldDate = getDateFromExternalApi();
```

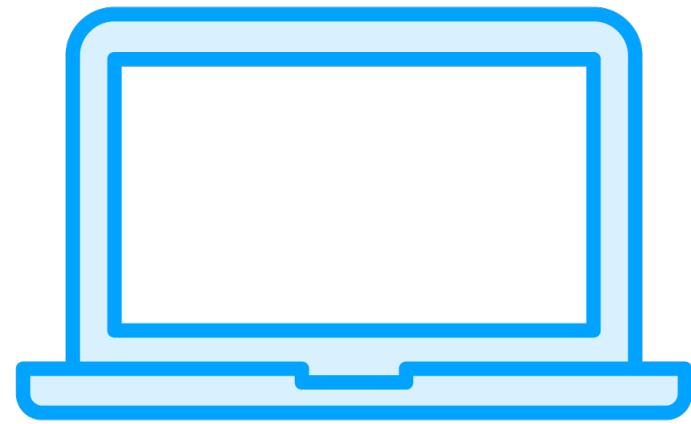
```
var newDate = convert(oldDate);
```



Getting Current Time



UTC

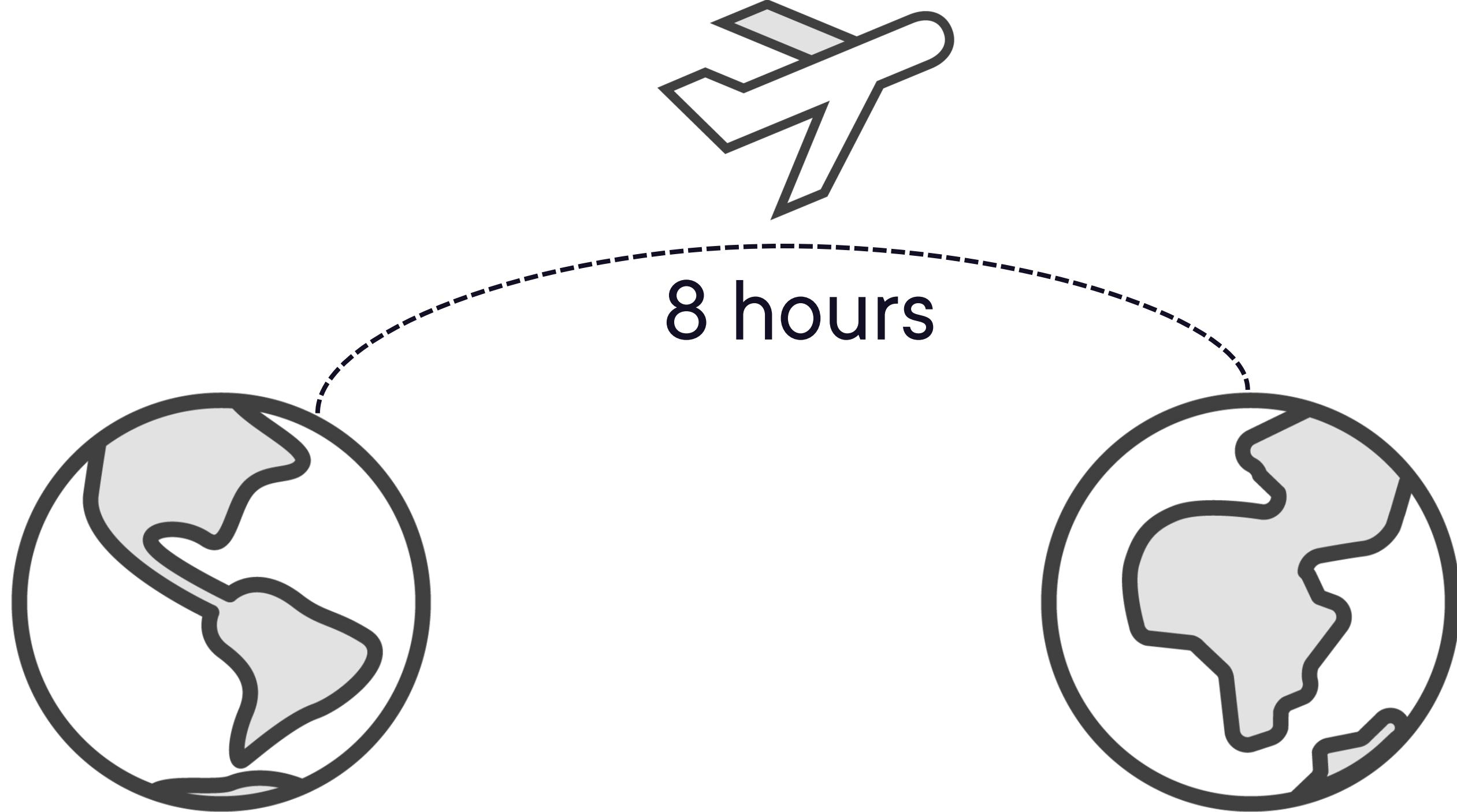


Machine-based



Specific to a time
zone





Flight



Flight: London to New York

Departure: 7am (local time)

Duration: 8 hours

Arrival: 10am (local time)



```
ZonedDateTime zdt = localTime  
        .atDate(now)  
        .atZone(ourZone);
```



Summary



Dates and Times

Zones

Period and Instant



Up Next:

Working with Arrays and Collections

