Dates and Times in .NET

DATE AND TIME FUNDAMENTALS

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Course Overview

Date & time fundamentals

Common date & time calculations

Supporting users in different time zones

Lots of **tips & tricks** for making your life easier when working with dates & times

Date and Time Fundamentals

Bugs due to dates and times..

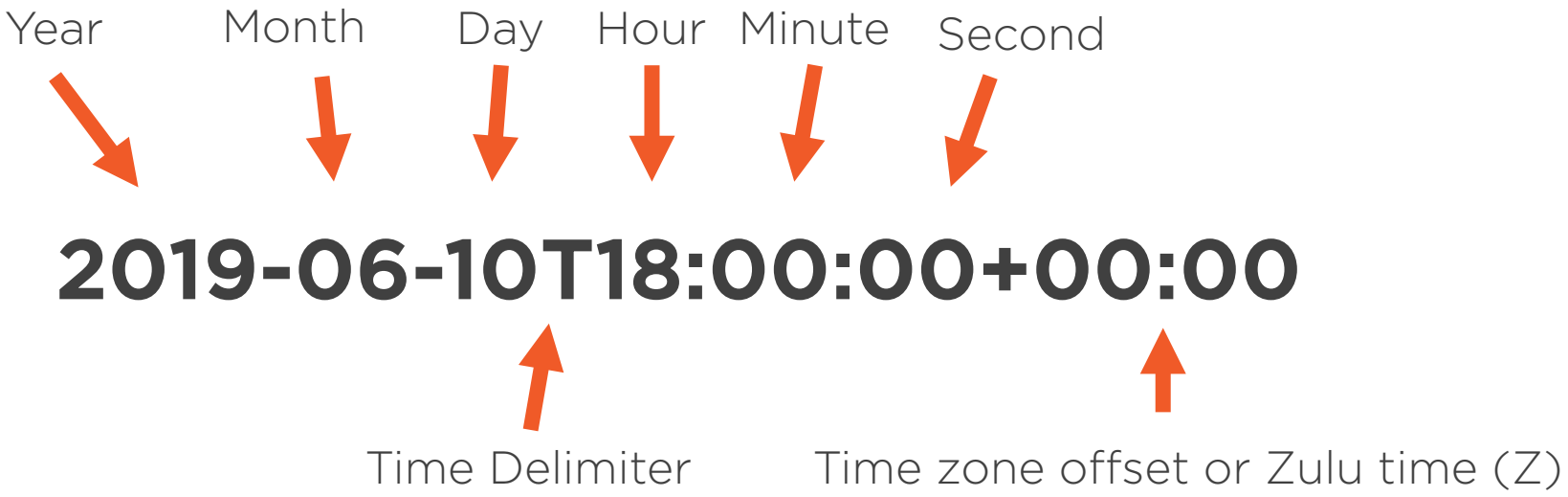
It’s just a matter of time!

10/6/2019

10th of June, 2019

6th of October, 2019

Date ambiguity is solved
with **ISO 8601**


Year
Month
Day
Hour
Minute
Second
2019-06-10T18:00:00+00:00
Time Delimiter
Time zone offset or Zulu time (Z)

We’re not always in control of the data being sent to our systems

Time ambiguity often causes confusion

10 O'Clock

10 am?

10 pm?

What time zone?

DateTime **does not** contain time zone specific information

When to Use DateTime

Dates	Times	UTC
Date & time arithmetic	Missing time zone information	Interop with external systems

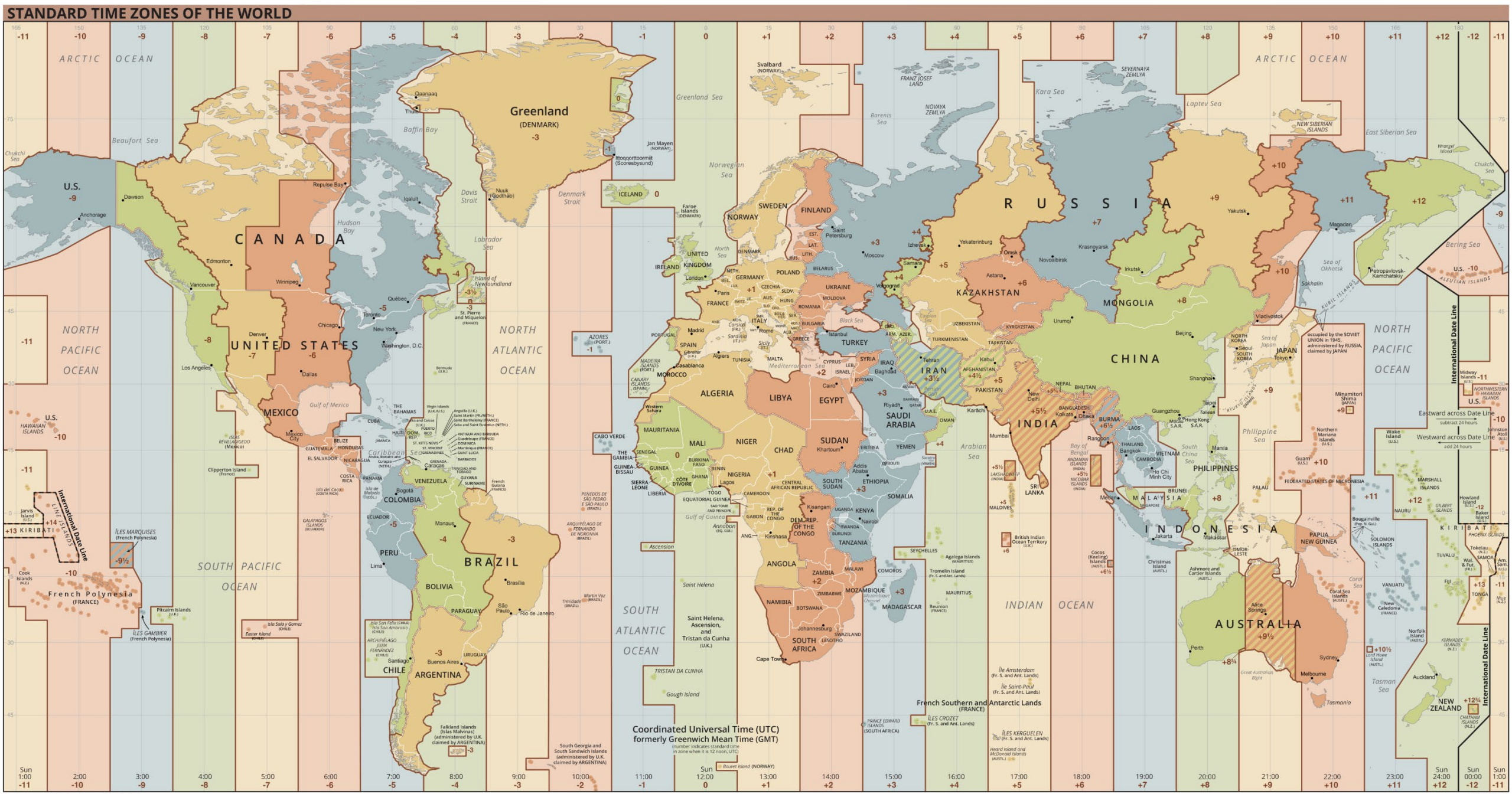
DateTimeOffset

DateTimeOffset should be preferred over using **DateTime**

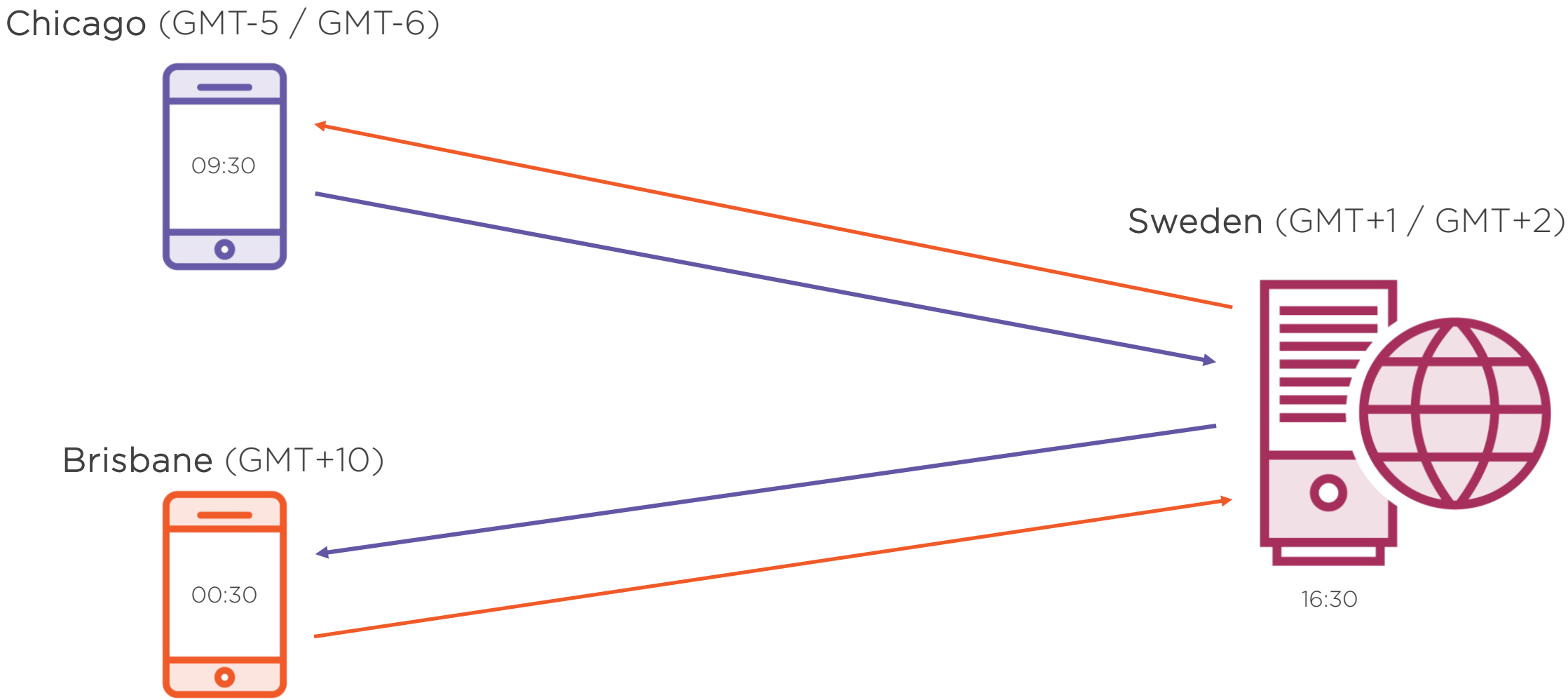
UTC aka Zulu military time

2019-06-10T18:00:00Z

20190610T180000Z



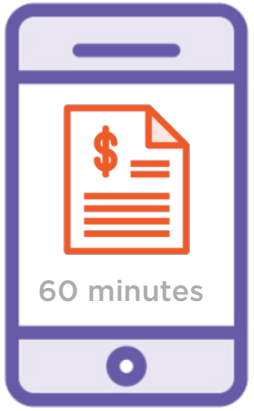
https://en.wikipedia.org/wiki/Coordinated_Universal_Time


Chicago (GMT-5 / GMT-6)
09:30
Sweden (GMT+1 / GMT+2)
Brisbane (GMT+10)
00:30
16:30

Expiry: 2019-06-10T**19:00**:00Z
Current time: 2019-06-10T**20:00**:00Z

Time left: 60 minutes

Chicago (GMT-5 / GMT-6)



Brisbane (GMT+10)

Always store dates and times in UTC

Summary

- Date & time fundamentals
- Handling date & time ambiguity
- Working with time zones
- Why DateTimeOffset is superior to DateTime
- Formatting and parsing
- How UTC makes everyones life easier