Working with Nulls in C#

WORKING WITH NULLABLE VALUE TYPES AND STRINGS

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Overview

Reference and value types overview

Using magic numbers for null value types

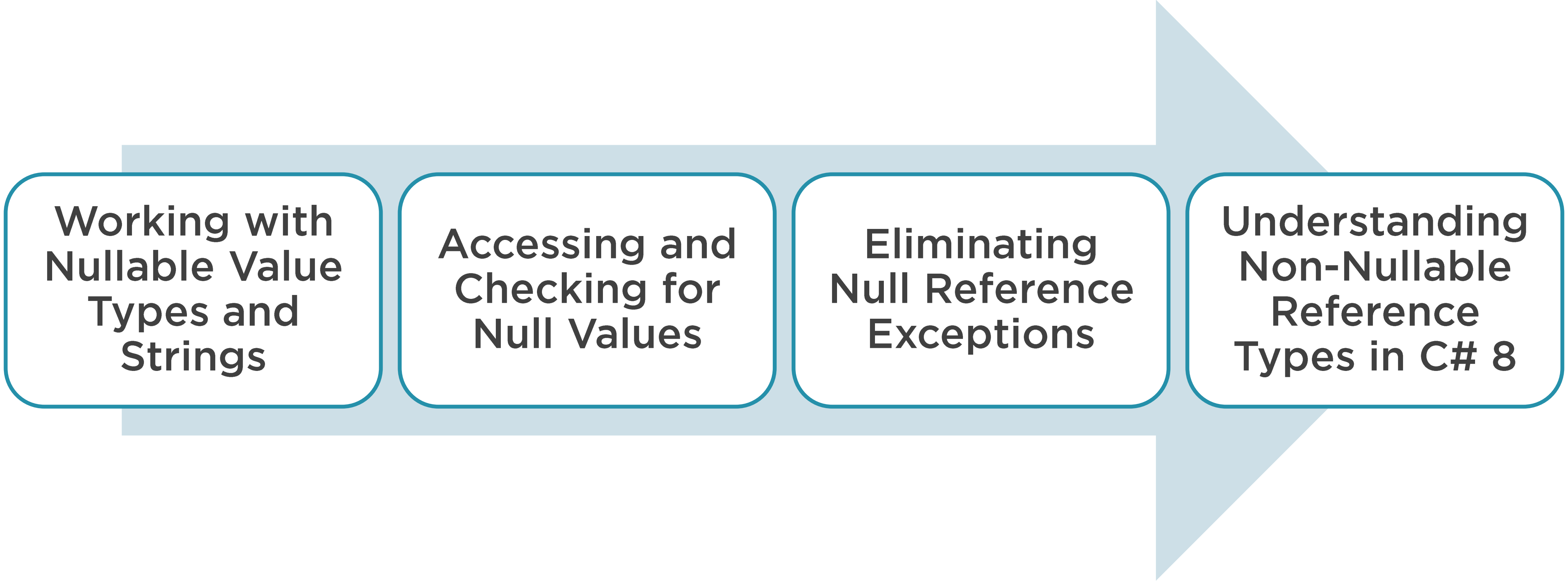
Nullable value types with Nullable<T>

C# shorthand for nullable value types

Nullable Boolean values

Null, empty, and whitespace strings

Course Outline



Working with Nullable Value Types and Strings

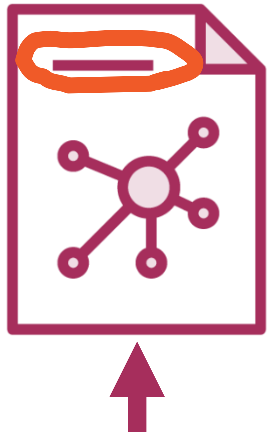
Accessing and Checking for Null Values

Eliminating Null Reference Exceptions

Understanding Non-Nullable Reference Types in C# 8

Reference and Value Types Overview

Value



http://dontcodetired.com/ebook.html

Reference

Reference and Value Types Overview

Value	Reference
C# struct	C# class
Independent instances/copies	Single shared instance
Value change doesn’t affect other copies	Value change affects people (references) pointing to it
The value is the information	The reference points to the information
No reference, cannot be null	Reference may point to “nothing” (null)
No need to check for nulls	Null checking code may be required

A value type may sometimes need to additionally represent a null value.

“Magic numbers”

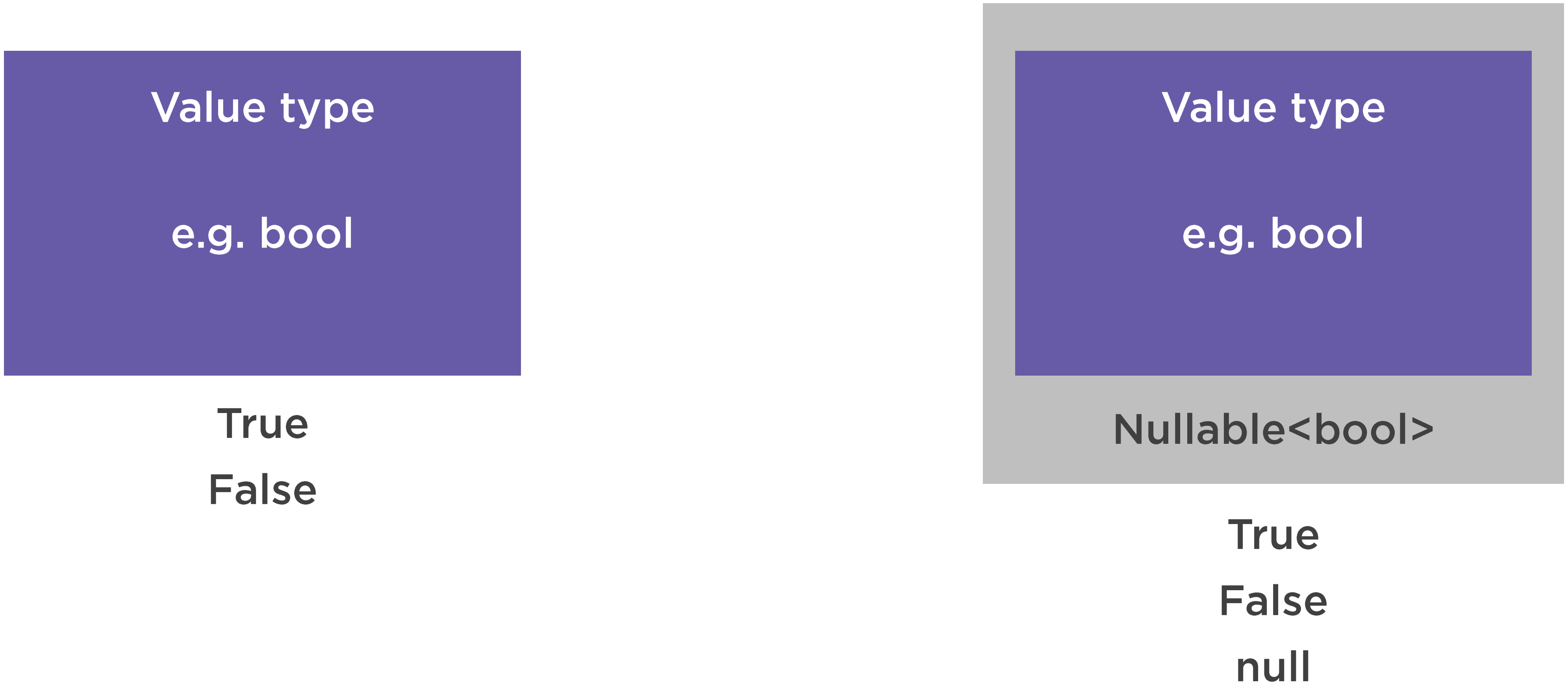
Nullable<T>

Nullable Value Types

Nullable types are instances of the System.Nullable<T> struct. A nullable type can represent the correct range of values for its underlying value type, plus an additional null value.

- MSDN

Introduction to Nullable Value Types with Nullable<T>



Value type

e.g. bool

True

False

Value type

e.g. bool

Nullable<bool>

True

False

null

Null and Empty Strings

```
string name = "Sarah"; // reference type
string name = null;
string name = ""; // empty string
string name = "    "; // whitespace string


if (name == null) {...}
if (string.IsNullOrEmpty(name)) {...}
if (string.IsNullOrWhiteSpace(name)) {...}
```

Summary

Reference and value types overview

Value types independent copies

References point to instance

Using magic numbers for null value types

-1 & DateTime.MinValue

Nullable value types with Nullable<T>

Nullable<int> & Nullable<DateTime>

C# shorthand: int? & DateTime?

Nullable Boolean values

string.IsNullOrWhiteSpace(player.Name)

Next:

Accessing and Checking for Null Values